A-700T

SERVICE MANUAL

N. Hemisphere Model

Chassis No.SCC-L10E-A

X2F CHASSIS

SPECIFICATIONS

Picture Tube	0.25 mm aperture grill pitch 17 inches measured diagonally 90-degree deflection
Video image area	(15.9" maximum viewing image) Approx. 327 x 241 mm (w/h) ($12^{7/8}$ x $9^{1/2}$ inches)
Logical resolution	Horizontal: Max. 1280 dots Vertical: Max. 1024 lines
Physical resolution	Horizontal: Max. 1024 dots Vertical: Max. 768 lines
Standard image area	Approx. 312 x 234 mm (w/h) ($12^{3/8}$ x $9^{1/4}$ inches)
Deflection frequency	Horizontal: 30 to 70 KHz Vertical: 50 to 120 Hz
AC input voltage / current	100 to 120 V, 50-60 Hz, 1.8 A (max.) 220 to 240 V, 50-60 Hz, 1.0 A
Dimensions	406 x 426.5 x 451 mm (w/h/d) (16 x $16^{7/8}$ x $17^{7/8}$ inches)
Mass	Approx. 18.5 kg (40lbs 13oz)

Design and specifications are subject to change without notice.

MICROFILM

COLOR COMPUTER DISPLAY

ナビsmedia

POWER SAVING FUNCTION

This monitor meets the power saving guidelines set by the EPA Energy Star Program as well as the more stringent TC092 guidelines (NUTEK). It is capable of reduced power consumption when used with a computer equipped with Display Power Management Signaling (DPMS). By sensing the absence of the sync signal coming from the computer, it will reduce the power consumption as follows:

CAUTION: The Power Saving function will automatically put the monitor into Active-off state if the power switch is turned on without any video signal input. Once the horizontal and vertical syncs are sensed, the monitor will automatically return to its Normal operation state.

	State	Power consumption	Required resumption time	⏻ Power indicator	POWER SAVING indicator
1	Normal Operation	≤ 110W	————	green on	off
2	Stand-by 1st step of power saving)	≤ 15W	approx. 3 sec.	green on	orange on
3	Suspend (2nd step of power saving)	≤ 15W	approx. 3 sec.	green on	orange on
4	Active-off (3rd step of power saving)	≤ 8W	approx. 10 sec.	off	orange on

TIMING SPECIFICATION

MODE	1	2	3	4	5	6	7
Resolution(H x V)	640 x 480	800 x 600	800 x 600	832 x 624	1024 x 768	1280 x 1024	1024 x 768
Dot Clock(MHz)	25.175	49.500	56.250	57.283	78.750	108.000	94.500
HORIZONTAL							
Hor. Freq. (kHz)	31.469	46.875	53.674	49.725	60.023	63.981	68.677
H-Total	31.778	21.333	18.631	20.111	16.660	15.630	14.561
H-Blanking	6.356	5.172	4.409	5.586	3.657	3.778	3.725
H-Front Porch	0.636	0.323	0.569	0.559	0.203	0.444	0.508
H-Sync.	3.813	1.616	1.138	1.117	1.219	1.037	1.016
H-Back Porch	1.907	3.232	2.702	3.910	2.235	2.296	2.201
H-Active (µsec)	25.422	16.162	14.222	14.524	13.003	11.852	10.836
VERTICAL							
Ver. Freq. (Hz)	59.940	75.000	85.061	74.550	75.029	60.020	84.997
V-Total	525	625	631	667	800	1066	808
V-Blanking	45	25	31	43	32	42	40
V-Front Porch	10	1	1	1	1	1	1
V-Sync.	2	3	3	3	3	3	3
V-Back Porch	33	21	27	39	28	38	36
V-Active (lines)	480	600	600	624	768	1024	768
SYNC.							
Int(G)	No	No	No	No	No	No	No
Ext (H/V)/Polarity	Yes -/-	Yes +/+	Yes +/+	Yes -/-	Yes +/+	Yes +/+	Yes +/+
Ext (CS)/Polarity	No	No	No	No	No	No	No
Int / Non Int	Non Int	Non Int	Non Int	Non Int	Non Int	Non Int	Non Int

SAFETY CHECK-OUT
(US Model only)

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC Leakage. Check leakage as described below.

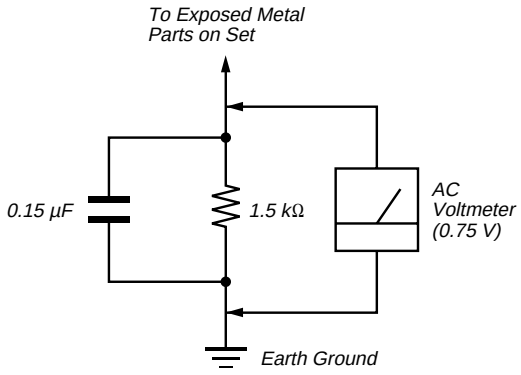

Fig. A. Using an AC voltmeter to check AC leakage.

LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampere). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instructions.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low voltage scale. The Simpson's 250 and Sanwa SH-63Trd are examples of passive VOMs that are suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

WARNING!!

NEVER TURN ON THE POWER IN A CONDITION IN WHICH THE DEGAUSS COIL HAS BEEN REMOVED.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL FOR SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

AVERTISSEMENT!!

NE JAMAIS METTRE SOUS TENSION OUAND LA BOBINE DE DEMAGNETISATION EST ENLEVEE.

ATTENTION AUX COMPOSANTS RELATIFS A LA SECURITE!!

LES COMPOSANTS IDENTIFIES PAR UNE TRAME ET PAR UNE MARQUE ⚠ SUR LES SCHEMAS DE PRINCIPE, LES VUES EXPLOSEES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMERO DE PIECE EST INDIQUE DANS LE PRESENT MANUEL OU DANS DES SUPPLEMENTS PUBLIES PAR SONY. LES REGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SECURITE DU FONCTIONNEMENT SONT IDENTIFIES DANS LE PRESENT MANUEL. SUIVRE CES PROCEDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONTIONNEMENT SUSPECTE.

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Precautions

Installation

- Prevent internal heat buildup by allowing adequate air circulation. Do not place the unit on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies) that may block the ventilation holes.
- Do not install the unit near heat sources such as radiators or air ducts, or in a place subject to direct sunlight, excessive dust, mechanical vibration or shock.
- Do not place the unit near equipment that generates magnetism, such as a converter or high-voltage power lines.

Maintenance

Clean the cabinet, glass panel, and controls with a soft cloth, lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder, or solvent, such as alcohol or benzine.

Transportation

When you transport this monitor for repairing or shipping, use the original carton box and packing materials.

Warning on Power Connection

- Use the supplied power cord.

for 100 to 120 V AC

for 220 to 240 V AC

For the customers in U.S.A.
If you do not do this, this monitor will not conform to mandatory FCC standards.

- Before disconnecting the power cord, wait for at least 30 seconds after turning off the power switch to allow for the discharging of static electricity on the CRT display surface.
- After the power has been turned on, the CRT is demagnetized for approximately 5 seconds. This generates a strong magnetic field around the bezel, which may affect the data stored on magnetic tape or disks near the bezel. Place such magnetic recording equipment and tapes/disks at a distance from this unit.

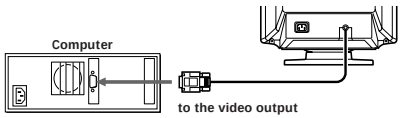
The socket-outlet shall be installed near the equipment and shall be easily accessible.

Getting Started

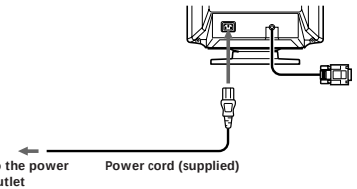
Before using this monitor, make sure that the following items are included in your package:
the monitor, power cord and this operating instruction manual.
This monitor will sync to platforms running at horizontal frequencies between 30 and 70 kHz.

Connecting the Computer

Step 1: With the computer switched off, attach the video signal cable to the video output.



Step 2: Attach the power cord to the monitor and then to the power outlet.



Step 3: Turn on the monitor and computer.

Step 4: If necessary, adjust the user controls according to your personal preference.

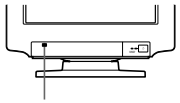
The installation is complete.

SECTION 1
GENERAL

The instructions given here are partial abstracts from the Operating Instruction Manual. The page numbers shown reflect those of the Operating Instruction Manual.

Adjustments

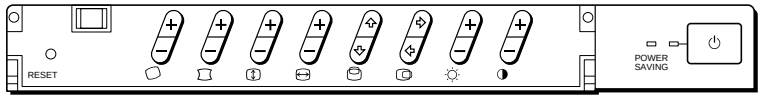
A number of digital controls are provided to allow you to optimize the display parameters to your preferences.
You can adjust the picture to your preferences by following the procedure described below.
You can adjust all items on the OSD (On Screen Display).



Push this part to open the control panel cover.

- Adjustments will be stored automatically.
- The OSD automatically disappears 3 seconds after you release the buttons.

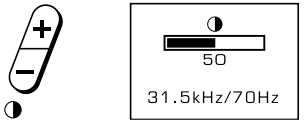
Control Panel



Contrast

The adjustment da ecomes the common setting for all input signals.

1 Press the ◑+/– button.
The ◑ OSD (On Screen Display) appears.

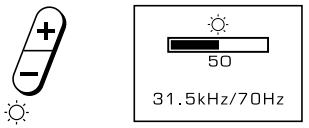


2 Press the ◑+/– button to adjust picture contrast.
+ .... for more contrast
– .... for less contrast

Brightness

The adjustment data becomes the common setting for all input signals.

1 Press the ☼+/– button.
The ☼ OSD (On Screen Display) appears.

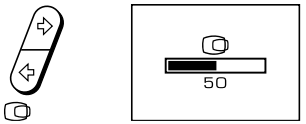


2 Press the ☼+/– button to adjust picture brightness.
+ .... for more brightness
– .... for less brightness

Horizontal centering

The adjustment data becomes the unique setting for the input signal received.

1 Press the ⇨/⇦ button.
The ⇨/⇦ OSD (On Screen Display) appears.

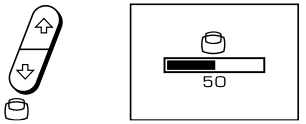


2 Press the ⇨/⇦ button.
⇨ ... to move right
⇦ ... to move left

Vertical centering

The adjustment data becomes the unique setting for the input signal received.

1 Press the ⇧/⇩ button.
The ⇧/⇩ OSD (On Screen Display) appears.

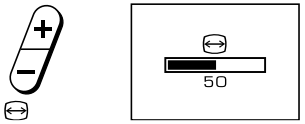


2 Press the ⇧/⇩ button.
⇧ ... to move up
⇩ ... to move down

Horizontal size

The adjustment data becomes the unique setting for the input signal received.

1 Press the ⇔+/– button.
The ⇔ OSD (On Screen Display) appears.

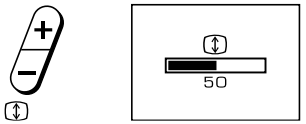


2 Press the ⇔+/– button.
+.... to enlarge
–.... to diminish

Vertical size

The adjustment data becomes the unique setting for the input signal received.

1 Press the ⇕+/– button.
The ⇕ OSD (On Screen Display) appears.

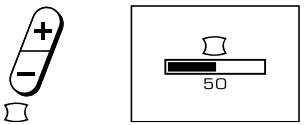


2 Press the ⇕+/– button.
+.... to enlarge
–.... to diminish

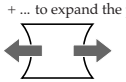
Pincushion

The adjustment data becomes the unique setting for the input signal received.

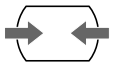
1 Press the ▱+/– button.
The ▱ OSD (On Screen Display) appears.



2 Press the ▱+/– button.
+ ... to expand the picture sides



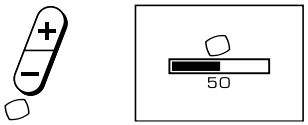
– ... to diminish the picture sides



Rotation

The adjustment data becomes the common setting for all input signals.

1 Press the ⬭+/– button.
The ⬭ OSD (On Screen Display) appears.

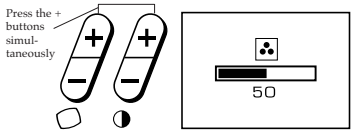


2 Press the ⬭+/– button.
+.... to rotate clockwise
–.... to rotate counterclockwise

Color Adjustment

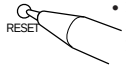
This adjustment is common to all input signals received.

1 Press the + buttons of the ⬭ Raster Rotation and the ◑ Contrast simultaneously. The OSD (On Screen Display) appears.



2 Press the ◑+/– button.
+.... for higher color temperature
–.... for lower color temperature

Resetting



- Press the RESET button to recall the factory settings for brightness, contrast, pincushion, horizontal and vertical size, and center for the mode currently in use.
- Press and hold the RESET button for 2 seconds to recall factory settings for all adjustments in all modes.

Power Saving Function

This monitor meets the power-saving guidelines set by the International Energy Star Program as well as the more stringent NUTEK 803299 (TCO92) guidelines. It is capable of reduced power consumption when used with a computer equipped with Display Power Management Signaling (DPMS). By sensing the absence of the sync signal coming from the computer, it will reduce the power consumption as follows:

CAUTION: The Power Saving function will automatically put the monitor into Active-off state if the power switch is turned on without any video signal input. Once the horizontal and vertical syncs are sensed, the monitor will automatically return to its Normal operation state.

	State	Power consumption	Required resumption time	⏻ Power indicator	POWER SAVING indicator
1	Normal operation	≤ 110 W	—	green on	off
2	Stand-by (1st step of power saving)	≤ 15 W	approx. 3 sec.	green on	orange on
3	Suspend (2nd step of power saving)	≤ 15 W	approx. 3 sec.	green on	orange on
4	Active-off (3rd step of power saving)	≤ 8 W	approx. 10 sec.	off	orange on

Plug and Play

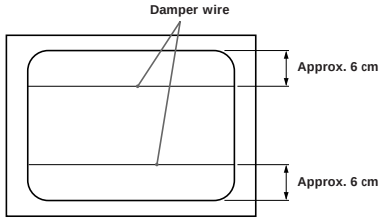
This monitor complies with the DDC™1, DDC2B and DDC2AB which are the Display Data Channel (DDC) standards of VESA.
When a DDC1 host system is connected, the monitor synchronizes with the V. CLK in accordance with the VESA standards and outputs the EDID (Extended Display Identification Data) to the data line.
When a DDC2B or DDC2AB host system is connected, the monitor automatically switches to each communication.

DDC™ is a trademark of Video Electronics Standard Association.

- Your monitor operates according to the VESA DDC Level 2AB. Only computers that support the same guidelines and operate at the same or higher level can make use of this feature.
- If your computer does not support the relevant guidelines, you can still use your monitor and computer. You may need to specify manually the appropriate resolution in the computer.
- The highest resolution selected automatically may not give the best result. In that case select the most suitable resolution manually in the computer.

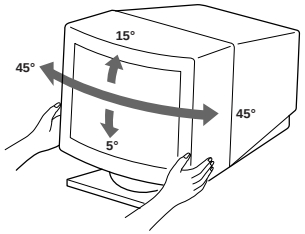
Damper Wire

Using a white background, very thin horizontal stripes on the screen are visible as shown right. These stripes are the damper wires. These wires are attached to the aperture grille inside the Trinitron tube and are there to damp vibrations of the aperture grille in order to prevent them from influencing the picture quality.



Use of the Tilt-Swivel

With the tilt-swivel base, this unit can be adjusted to be viewed at your desired angle within 90° horizontally and 20° vertically.
To turn the unit vertically and horizontally, hold it at its bottom with both hands.



Specifications

Picture tube	0.25 mm aperture grille pitch 17 inches measured diagonally 90-degree deflection
Viewable image size	Approx. 327 × 241 mm (w/h) (12 7/8 × 9 1/2 inches) 15.9" viewing image
Resolution	Horizontal: Max. 1280 dots Vertical: Max. 1024 lines
Display picture size	Approx. 312 × 234 mm (w/h) (12 3/8 × 9 1/4 inches)
Deflection frequency	Horizontal: 30 to 70 kHz Vertical: 50 to 120 Hz
AC input voltage/current	100 to 120 V, 50/60 Hz, 1.8 A 220 to 240 V, 50-60 Hz, 1 A
Dimensions	406 × 426.5 × 451 mm (w/h/d) (16 × 16 7/8 × 17 7/8 inches)
Mass	Approx. 18.5 kg (40 lb 13 oz)

Design and specifications are subject to change without notice.

Troubleshooting

This section may help you isolate a problem and, as a result, eliminate the need to contact technical support, allowing continued productivity.

Symptom	Check these items
No picture	
If neither the ⏻ (power) indicator nor the POWER SAVING indicator is lit	• Check that the power cord is properly connected. • Check that the ⏻ power switch is in the "on" position.
If the POWER SAVING indicator is lit	• Check that your computer power switch is in the "on" position. • The monitor will recover when you press any key on the keyboard of the computer. • Check that the video cable is properly connected. • Ensure that no pins are bent or pushed in the HD15 connector of the cable. • Check that the video card is seated completely in a proper bus slot. • Check that the video sync signal is within that specified for the monitor. • Use the monitor's self-diagnosis function to check for any other problems. To use the self-diagnosis, power down the monitor, then press and hold the ⏻ power switch until the ⏻ (power) indicator begins to blink (after about five seconds), then the screen should turn white and a display of three colored bars (red, green, and blue) appears in the middle of the black display. If you observe these conditions, the monitor is working properly.
If the ⏻ (power) and the POWER SAVING indicators are both flashing	• Turn the monitor off and on. If the indicator is not flashing, the monitor is in the normal condition. • There is a potential monitor failure. Contact your dealer.

Troubleshooting

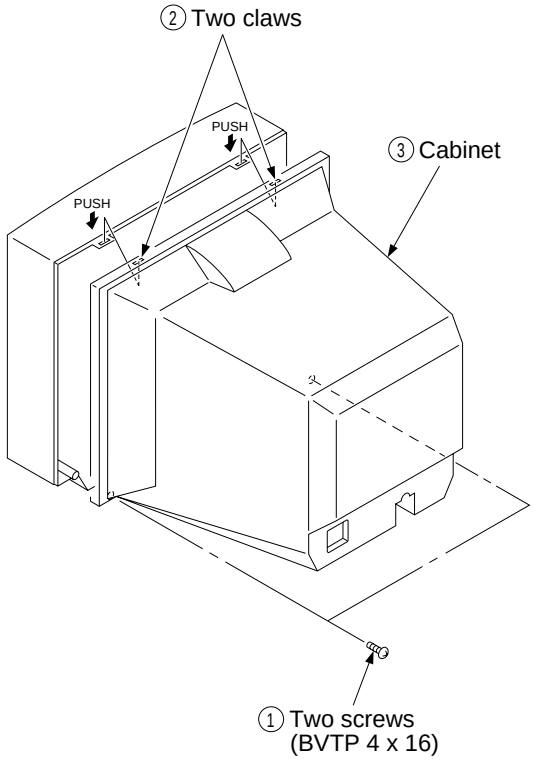
Symptom	Check these items
If the message of "OUT OF SCAN RANGE" appears on the screen	• Check that the video sync signal is specified for the monitor.
Picture is scrambled	• Check your graphics board manual for the proper monitor setting on your monitor. • Check this manual and confirm that the graphics mode and the frequency at which you are trying to operate is supported. Even within the proper range, some video boards may have a sync pulse that is too narrow for the monitor to sync correctly.
Color is not uniform	• Trip the ⏻ power switch once to activate the Auto-degauss cycle*.
Screen image is not centered or sized properly	• Adjust centering or size (pages 4, 5). • Some video modes do not fill the screen to the edge of the monitor. There is no single answer to solve the problem. There is tendency to have this problem on higher refresh timings.
Picture is fuzzy	• Adjust the Contrast and Brightness controls (page 4). Several brands of SVGA boards have an excessive video output level which creates a fuzzy picture at max contrast. • Trip the ⏻ power switch once to activate the Auto-degauss cycle*.
Picture bounces or has wavy oscillations	• Move electrical (magnetic) devices that may be creating electrical interference away from the monitor. • If you have another monitor close to this monitor, increase the distance between them to reduce the interference. • Your office may have electric power wiring behind the wall. Move the monitor away from the wall.
A fine horizontal line (wire) is visible	• This wire stabilizes the vertically striped Aperture Grille. This Aperture Grille allows more light to pass through to the screen giving the Trinitron®** CRT more color and brightness.
Screen image is tilted	• Trip the ⏻ power switch once to active the Auto-degauss cycle*. Then, adjust the Rotation (page 5).
Edges of the image are curved.	• Adjust the Pincushion (page 5).
Wavy or elliptical (moire) pattern is visible	• Due to the relationship between resolution, monitor dot pitch, and the pitch of some image patterns, certain screen backgrounds, especially gray, sometimes show moire. This can only be eliminated by changing your desktop pattern.

* The Auto-degauss function demagnetizes the metal frame of the CRT in order to obtain a neutral field for uniform color reproduction. If a second degauss cycle is needed, allow a minimum interval of 20 minutes for the best result.
** Trinitron® is a registered trademark of Sony Corporation.

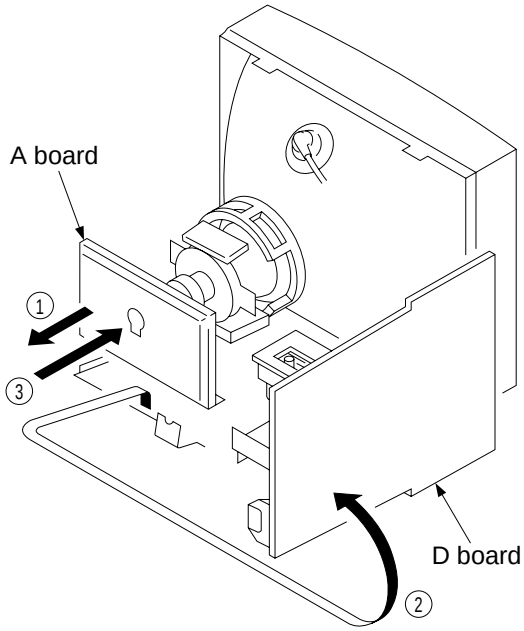
- If the problem persists, call your authorized dealer from a location near your monitor.
- Note the model name and the serial number of your monitor. Also note the make and name of your computer and video board.

SECTION 2
DISASSEMBLY

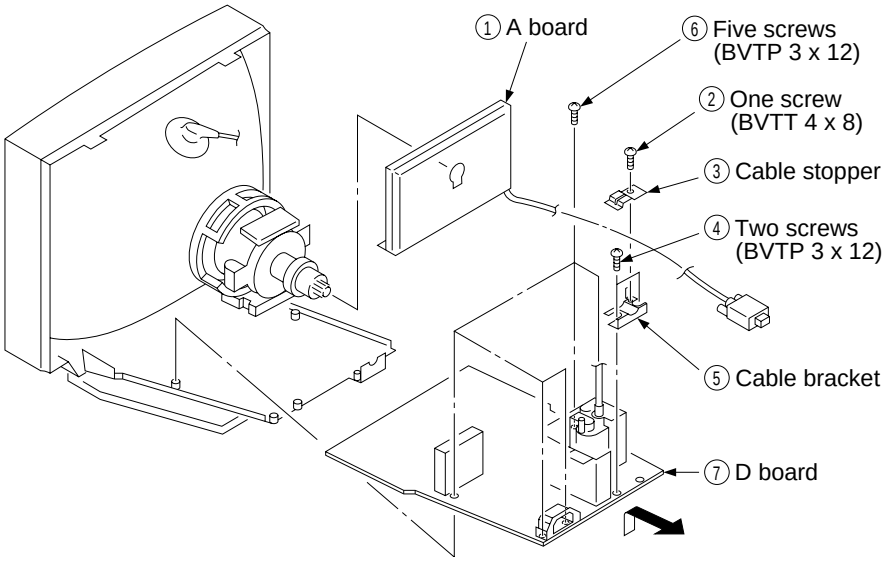
2-1. CABINET REMOVAL



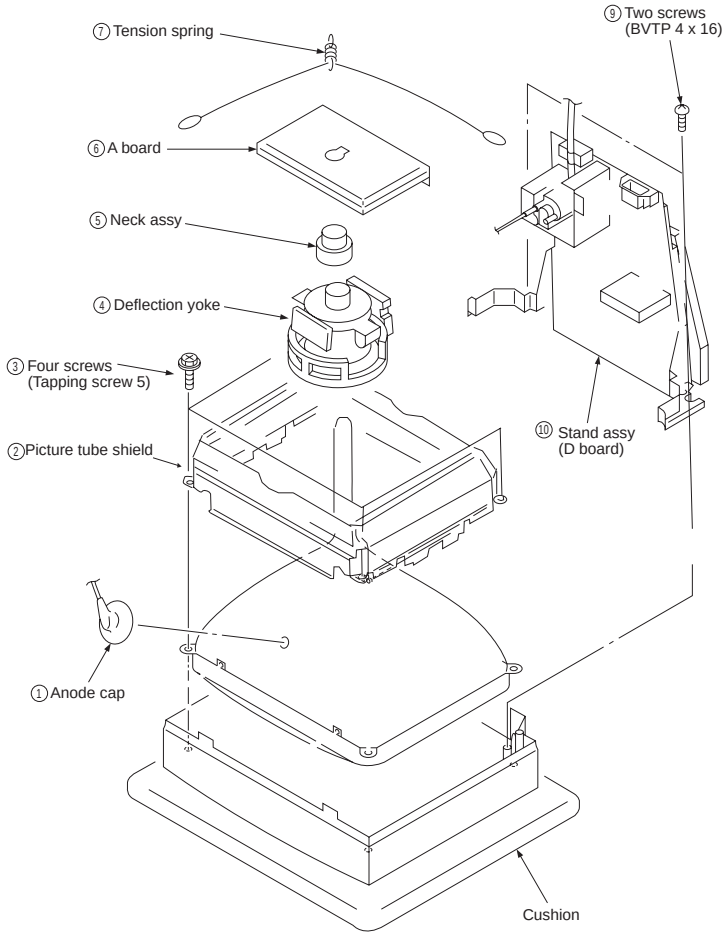
2-2. SERVICE POSITION



2-3. D BOARD REMOVAL



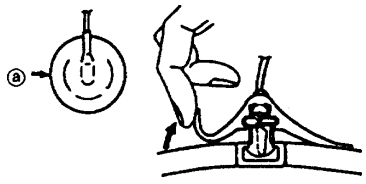
2-4. PICTURE TUBE REMOVAL



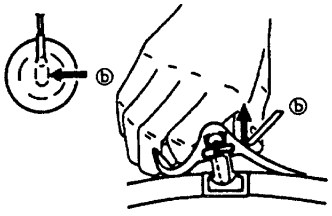
REMOVAL OF THE ANODE-CAP

NOTE: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

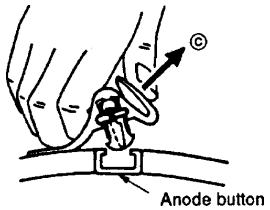
REMOVAL PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by arrow ⓐ.



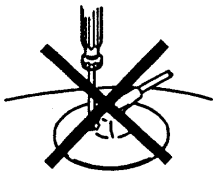
② Use your thumb to pull the rubber cap firmly in the direction indicated by arrow ⓑ.

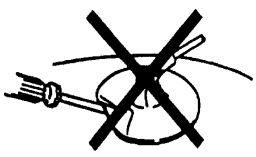


③ When one side of the rubber cap separates from the anode button, the anode-cap can be removed by turning the rubber cap and pulling it in the direction of arrow ⓒ.

HOW TO HANDLE AN ANODE-CAP

① Do not use sharp objects which may cause damage to the surface of the anode-cap.
② Do not squeeze the rubber covering too hard to avoid damaging the anode-cap. A material fitting called a shatter-hook terminal is built into the rubber.
③ Do not force turn the foot of the rubber cover. This may cause the shatter-hook terminal to protrude and damage the rubber.





SECTION 3
SAFETY RELATED ADJUSTMENT

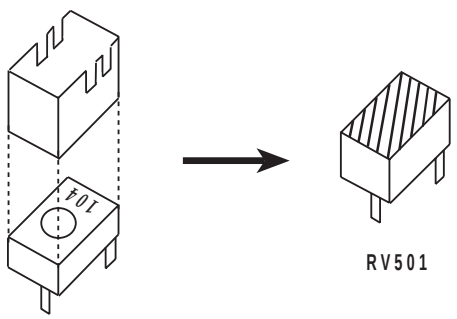
● **When replacing parts shown in the table below, the following operational checks must be performed as a safety precaution against X-rays emissions from the unit.**

D - BOARD
Part Replaced (⧓)
RV501
Part Replaced (◪)
IC801, IC901, IC904, FBT T501, D511, D515, D596, R532, R533, R534, R535, R538, R539, R540, R541, R542, R543, R544, R545, R807, R822, R823, R824, R939, R996, RV501, C509, C515, C516, C517, C519, C528, C531, C542, C548, C549, C802, C814, C815, C904, C910, R598, R599

※ Allow the unit to warm up for one minute prior to checking the following conditions:

a) HV Regulator Check

1) Input white cross hatch signal. (fH = 64 kHz)
2) Set H.Size data to minimum.
3) Cut off Screen VR (G2).
4) Input voltage: 120 ± 2 VAC
5) Confirm that the voltage is within the voltage range shown below:
   Standard voltage: 25.0KV ± 0.2KV
6) When replacing components identified by ◪, make sure to recheck the High Voltage.
7) Verify the High Voltage as shown above (25.0KV ± 0.2KV) is within specification. If not, set H. SIZE data at minimum (-127) and then adjust RV501 on "D" Board.
8) After adjusting the High Voltage within specification, put the RV cover on RV501 as shown below and apply sufficient amount of RTV around RV501.



b) HV Hold-Down Check

1) Using an external DC Power supply, apply the voltage shown below between cathode of D511 on "D" Board and GND, and confirm that the HV Hold-Down circuit works. (Raster disappears)
   Standard voltage: 35.00 ± 0.05 VDC

Check Condition

- Input voltage : 120 ± 2 VAC
- Input signal : Any pattern (fH = 64 kHz)
- Controls : CONT → Maximum
  : BRT → Center

c) Beam Protector Check

1) Using an external DC power supply, apply the voltage 7.00 + 0.05 VDC between pin (11) of FBT (T501) and GND, and confirm that the voltage of both ends C519 is with in the voltage range shown below.
   Standard voltage: Less than 3.26 VDC

Check Condition

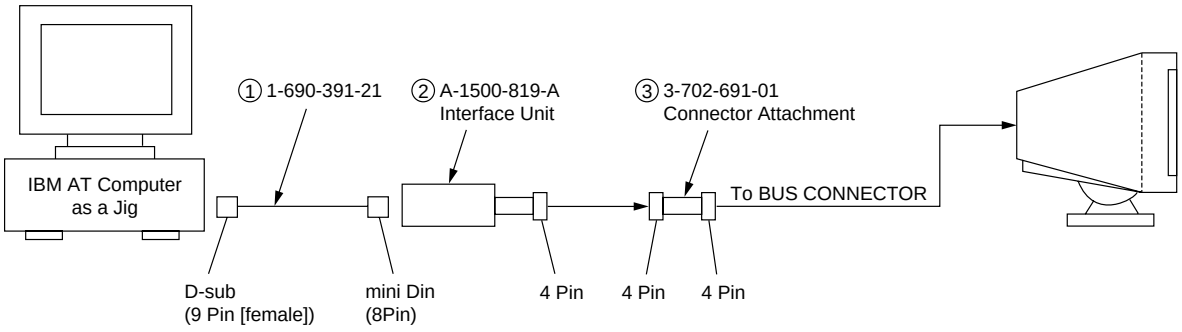
- Input voltage : 120 ± 2 VAC
- Input signal : Any pattern (fH = 64 kHz)
- Controls : CONT → Maximum
  : BRT → Center

d) +B MAX. Check

1) Input white cross hatch (fH = 64 kHz) signal.
2) Set CONT and BRT to Maximum
3) Input voltage: 120 ± 2 VAC
   Note: Use NF power supply or make sure that distortion factor is 3% or less.
4) Confirm that the voltage is within the voltage range shown below.
   Standard voltage: 151.0 ± 4.25 VDC
   Measurement Point: CN505 Pin 1 and GND

SECTION 4
ADJUSTMENTS

Connect the communication cable of the connector located on the D board on the monitor. Run the service software and then follow the instructions.



*The parts above (①~③) are necessary for DAS adjustment.

※ Allow a 30 minute warm-up period prior to making the following adjustments.

● **Landing Rough Adjustment**

1. Enter the full white signal.
2. Adjust the contrast to the maximum.
3. Make the screen monogreen.
4. Reverse the DY, and adjust coarsely the purity magnet so that a green raster positions in the center of screen.
5. Moving the DY forward, adjust so that an entire screen becomes monogreen.
6. Adjust the tilt of DY, and fix lightly with a clamp.

● **Landing Fine Adjustment**

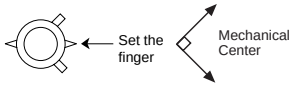
1. Place the set in the Helmholtz coil.
2. Enter a green signal only.
3. Degauss the entire screen with hand-degausser. Then auto degauss it.
4. Attach a wobbling coil to the specified position of CRT neck.
5. Attach a landing adjuster sensor on the CRT.
6. Using a landing checker, adjust the DY position, purity on DY, tilt of DY.
7. Clamp the DY screw.
   Clamping torque: 22 ± 2 kgcm (2.2± 0.2 Nm)

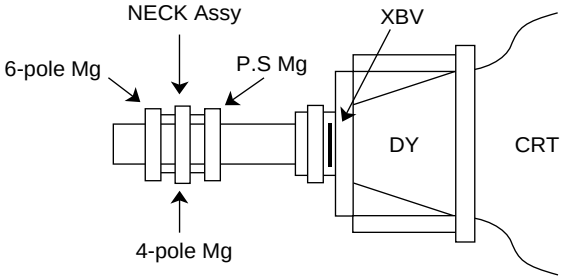
● **Convergence Rough Adjustment**

1. Enter the white crosshatch signal.
2. Adjust roughly the horizontal and vertical convergence at four-pole magnet.
3. Adjust roughly HMC and VMC at six-pole magnet.

● **Convergence Fine Adjustment**

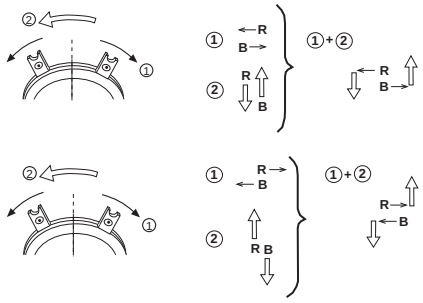
Set DY four-pole magnet to mechanical center before adjustment.
This should be prime mode.





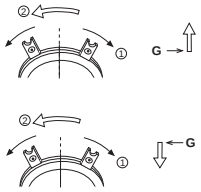
1. Receive R.B. crosshatch.
2. Adjust H. STAT and V. STAT at four-pole magnet.

< 4 Pole Magnet>



3. Receive White cross-hatch.
4. Adjust HMC and VMC at six-pole magnet.

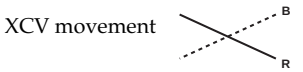
< 6 Pole Magnet>



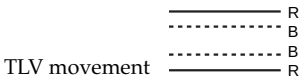
5. Display R and B cross hatch patterns.
6. Adjust H STAT and V STAT with 4-pole magnet.
7. Display white cross hatch patterns.
8. Adjust HMC and VMC with 6-pole magnet.
9. Display R and B cross hatch patterns.
10. Adjust XCV and XCV roller.
11. Adjust XBV and XBV reactor.
12. Adjust V.STAT with 4-pole magnet.

Repeat steps 7 to 12 above and make R, G, B of both vertical and horizontal lines to be overlaid at the center of the x-axis.

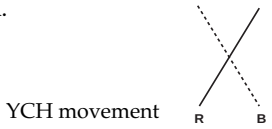
13. Adjust H.TILT with TLH Corrector.
14. Adjust XCV with XCV core.



15. Adjust V.TILT with TLV VR.



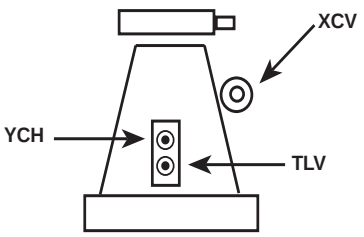
16. Adjust Y.CROSS with YCH VR.



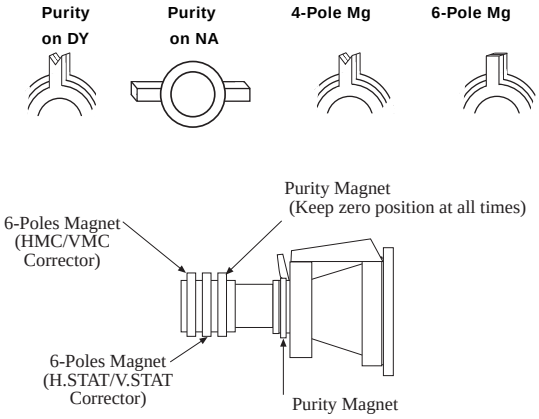
17. Adjust YBH with YBH VR.

18. Paint lock the four-pole magnet ,six-pole magnet, XBV reactor, XCV corrector and TLH corrector handle.

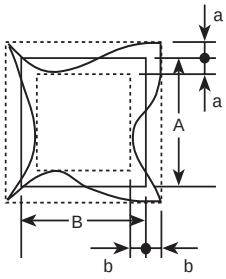
<VR Adjustment on DY>



Zero Position NECK Asssembly

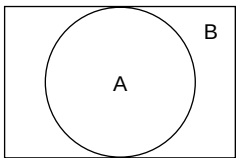


● Vertical and Horizontal Position and Size Specification



A	B
234mm	312mm

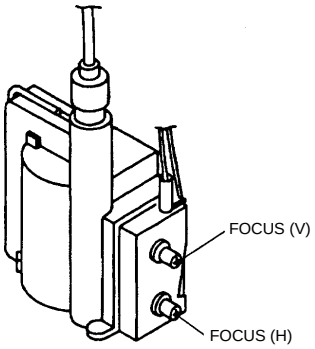
● Convergence Specification

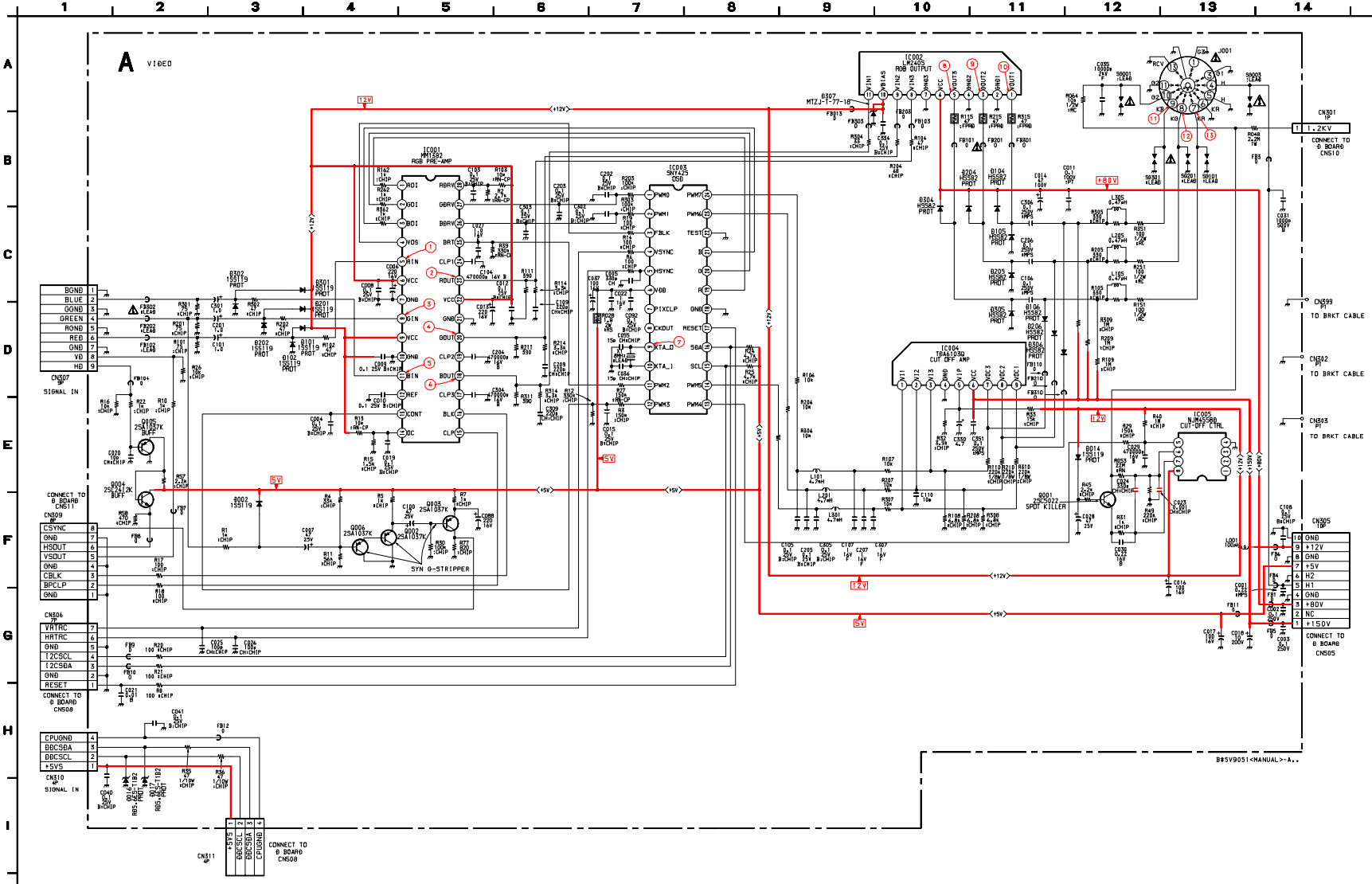


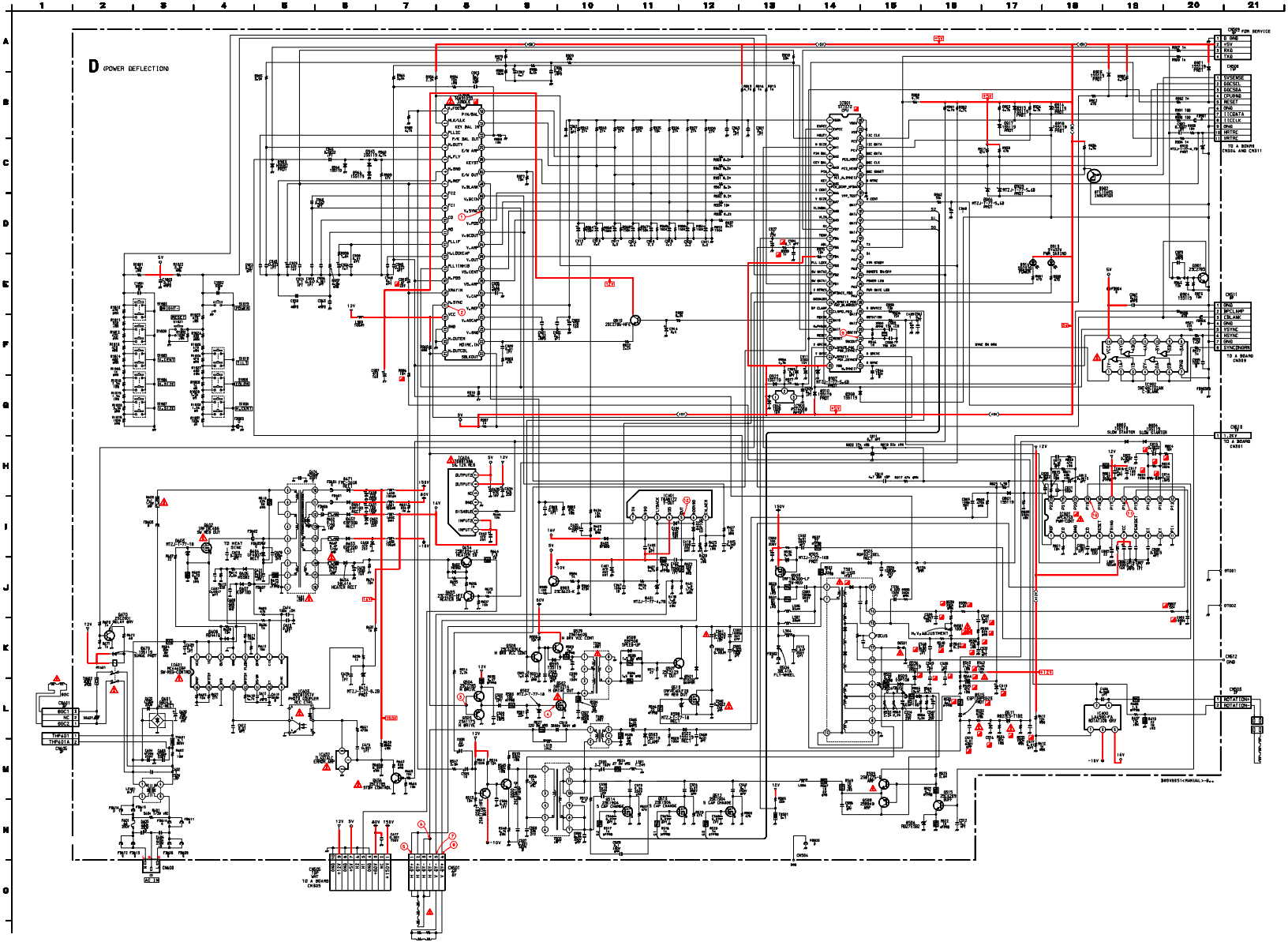
A ≦ **0.24mm**
B ≦ **0.28mm**

● Focus Adjustment

Adjust focus (V) and focus (H) for optimum focus.

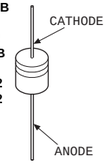



A VIDEO
IC001 MM1592 RGB PRE-AMP
IC002 LM2405 RGB OUTPUT
IC003 SNK425 OSD
IC004 TDA61030 CUT OFF AMP
IC005 NJM4558D CUT-OFF CTRL
Q001 2SC5022 SPOT KILLER
SYN G-STRIPPER
CN307 SIGNAL IN
BGND BLUE GGND GREEN RGND RED GND VD HD
CN309
CSYNC GND HSOUT VSOUT GND CBLK BPCLP GND
CN506
VRTRC HRTRC GND I2CSCL I2CSDA GND RESET
CONNECT TO B BOARD CN508
CN310 SIGNAL IN
CPUGND B0CSDA B0CSCL +5VS
CN311
CONNECT TO B BOARD CN508
CN301 1.2KV
CONNECT TO B BOARD CN510
CN599 TO BRKT CABLE
CN502 TO BRKT CABLE
CN503 TO BRKT CABLE
CN505
GND +12V GND +5V H2 H1 GND +80V NC +150V
CONNECT TO B BOARD CN505
B#SV9051<MANUAL>-A..

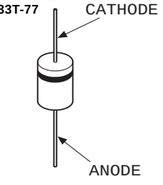

D POWER DEFLECTION

5-4. SEMICONDUCTORS

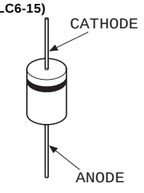
MTZJ-T-77-4.7B
MTZJ-T-77-5.6B
MTZJ-T-77-8.2B
RB441QT-77
RD27ES-T1B2
MTZJ-T-77-10B
MTZJ-T-77-18
RD4.7ES-T1B2
RD5.6ES-T1B2
1SS119-25TD



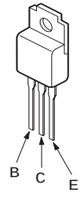
EGP20DPKG23
EGP10GPKG23
1SS133T-77



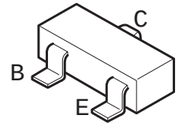
UF3ML-6505
RGP02-20EL-6394
3DL41A (LC6-15)
HSS 82



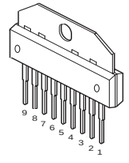
2SC5022-02



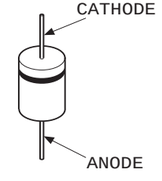
EGP30D
2SA1037K-T-146-QR



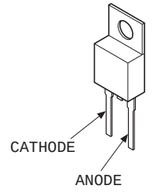
TDA6103Q



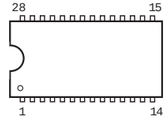
SB340L-6489



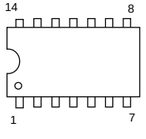
5TUZ52



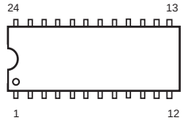
LM1281



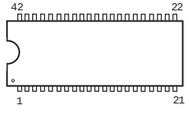
SN74HCT02AN



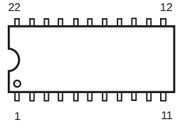
SNY425



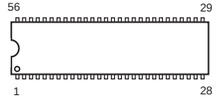
TDA9105S



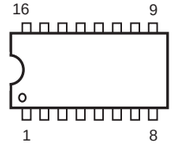
VPC5023CS-095



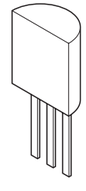
ST7272N5B1/CMI



MC 44603P



TL 431CLP



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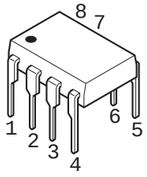
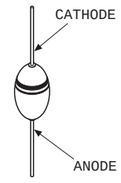


GP104005-E-G23



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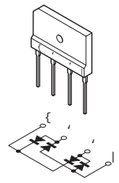

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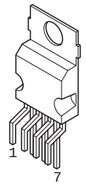

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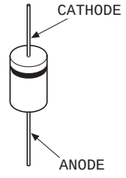
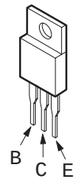
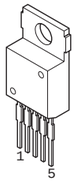


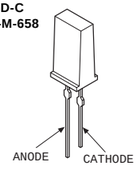
2SD2394-F



LA 6500-FA



SEL1422G-C
SG232D-658
SEL1922D-C
SY432W-M-658



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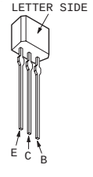
2SA1048TP-VGR
2SC3311A-QRSTA
2SA1309A-QRSTA



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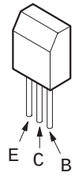

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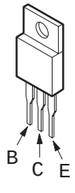
2SB1565F



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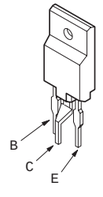
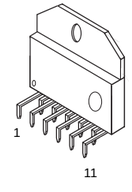
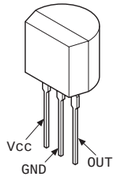


LM2406T



PST600D-T



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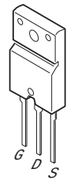

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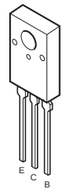
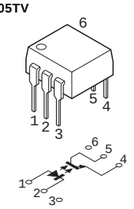


M0C8105TV



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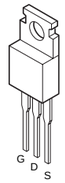
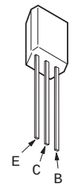
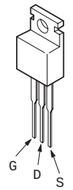


DTC124ES-TP



2SK1904



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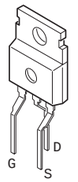
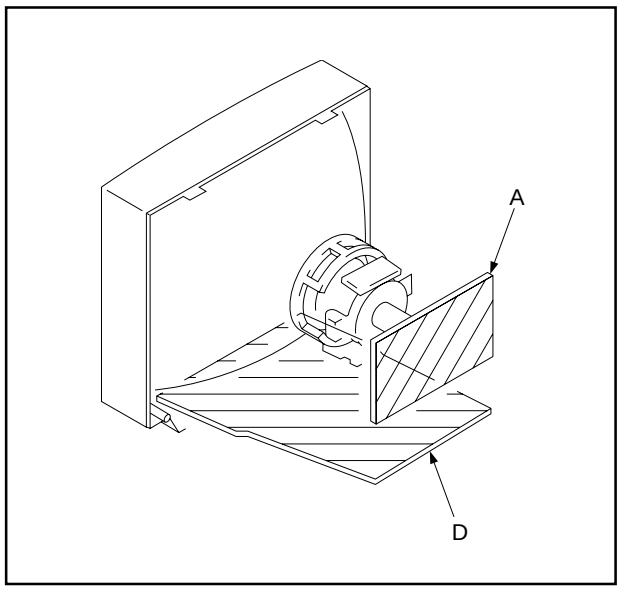


5-2. CIRCUIT BOARDS LOCATION



5-3. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note:

- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytic.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4 W (CHIP: 1/10 W)

- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- Δ : internal component.
- : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ⊥ : earth-ground.
- ⏚ : earth-chassis.
- The components identified by ⧓ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪, make the necessary adjustments by using RV501 (⧓) as indicated. (See page 10)

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifies per un trame et une marque ⚠ sont critiques pour la securite. Ne les remplacer que par une piece portant le numero specifie.

- When replacing parts shown in the table below, be sure to perform the safety related adjustment.

D - BOARD
Part Replaced (⧓)
RV501
Part Replaced (◪)
IC801, IC901, IC904, FBT (T501), D511, D515, D596, R532, R533, R534, R535, R538, R539, R540, R541, R542, R543, R544, R545, R807, R822, R823, R824, R939, R996, RV501, C509, C515, C516, C517, C519, C528, C531, C542, C548, C549, C802, C814, C815, C904, C910, R598, R599

- All voltages are in volts.
- Readings are taken with a 10 MΩ digital multimeter
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- * : Cannot be measured.
- Circled numbers are waveform references.
- ——— : B +bus.
- – – – : B - bus.

SECTION 6
EXPLODED VIEWS

The components Identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

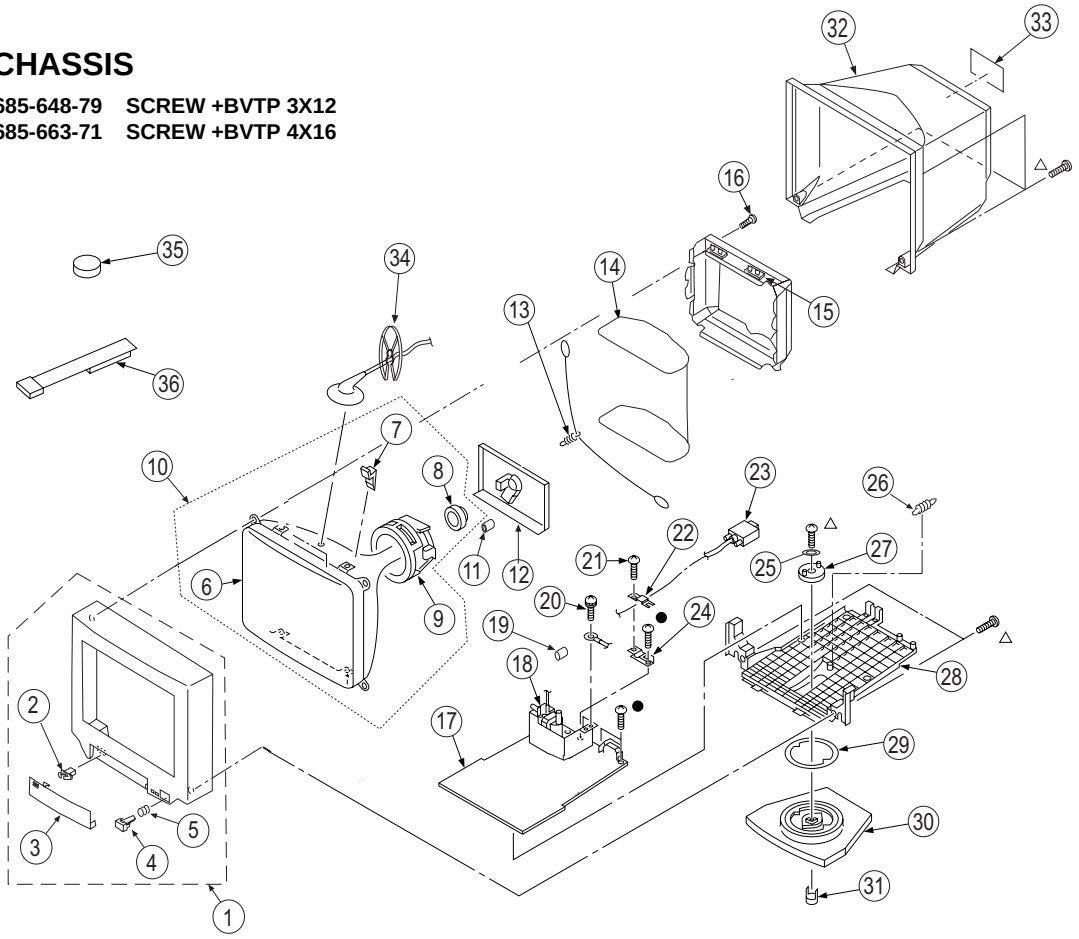
Les composants identifies per un trame et une marque ⚠ sont critiques pout la securite. Ne les remplacer que par une piece portant le numero specifie.

• Items with no part number and no description are not stocked because they are seldom required for routine service.
• The component parts of an assembly are indicated by the reference numbers in the remarks column.

• Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

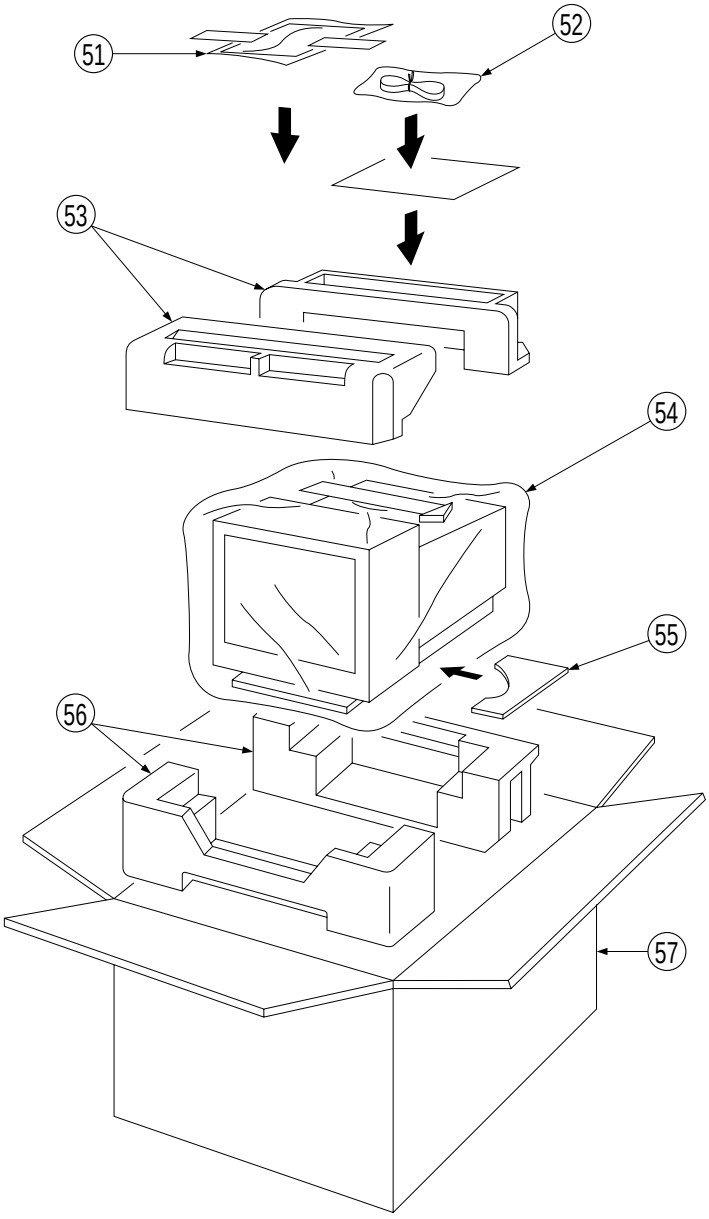
6-1. CHASSIS

● **7-685-648-79 SCREW +BVTP 3X12**
△ **7-685-663-71 SCREW +BVTP 4X16**



REF.NO.		PART NO.	DESCRIPTION	REMARK
1		X-4034-986-1	BEZEL ASSY	2-5
2		4-392-036-01	CATCHER, PUSH	
3	*	4-059-036-11	DOOR	
4		4-059-038-11	BUTTON, POWER	
5		3-571-801-01	SPRING, COMPRESSION	
6	⚠	8-738-725-05	CRT 17FRFM (M41LKN15X)	
7		4-040-897-01	SPACER, DY	
8	⚠	1-452-923-21	NECK ASSY (NA-2914)	
9	⚠	8-451-487-11	DY Y17FRG-M	
10	⚠	8-738-723-80	ITC ASSY (17FRF-R1)	6-9
11		1-500-386-11	FILTER CLAMP (FERRITE CORE)	
12	*	A-1298-104-A	A BOARD, COMPLETE	
13	*	4-061-573-01	SPRING, TENSION	
14	⚠	1-416-282-21	COIL, DEMAGNETIZATION	
15	*	4-056-260-01	SPACER, DGC	
16		4-365-808-01	SCREW (5), TAPPING	
17	*	A-1346-612-A	D BOARD, COMPLETE	
18	⚠	X-4034-572-1	TRANSFORMER ASSY, FLYBACK (NX-4103//J1E4)	
19		1-543-653-11	CORE ASSY, BEAD (DIVISION TYPE)	
20		4-389-025-01	SCREW (M4x8) (EXT.TOOTHWASHER)	
21		7-685-882-09	SCREW + BVTT 4x10 (S)	
22	*	4-045-131-01	STOPPER, CABLE	
23	*	1-782-687-11	CABLE ASSY (15P D-SUB)	
24	*	4-045-130-01	BRACKET, CABLE	
25	*	4-043-646-01	HOLDER, STAND	
26		4-046-901-01	SPRING, TENSION	
27		4-041-623-01	STOPPER (A), STAND	
28		4-059-044-12	COVER, BOTTOM	
29	*	4-041-625-21	RING, TILT SWIVEL	
30		X-4034-732-2	STAND BASE, ASSY	
31		4-041-621-21	STOPPER (B), STAND	
32	*	X-4034-733-2	CABINET ASSY	
33	*	4--061-225-01	LABEL, INFORMATION	
34		3-704-372-31	HOLDER, HV CABLE	
35		1-452-032-00	MAGNET, DISC	
36		X-4029-622-2	PERMALLOY ASSY, CORRECTION	

6-2. PACKING MATERIALS



REF.NO.		PART NO.	DESCRIPTION	REMARK
51		3-861-115-11	MANUAL, INSTRUCTION	
52	⚠	1-776-027-41	CORD SET, POWER	
53	*	4-046-461-01	CUSHION (UPPER ASSY)	
54	*	4-041-927-11	BAG, POLYETHYLENE	
55		4-046-460-01	PAD, FIXED TILT	
56	*	4-047-033-01	CUSHION (LOWER ASSY)	
57	*	4-061-224-01	INDIVIDUAL CARTON	

SECTION 7
ELECTRICAL PARTS LIST

Note:

The components Identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note:

Les composants identifies per un trame et une marque ⚠ sont critiques pout la securite. Ne les remplacer que par une piece portant le numero specifie.

The components identified by ⋈ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

CAPACITORS
- MF = µF

INDUCTORS
UH = µH
MH = mmH

When indicating parts by reference number, please include the board name.

A

*** A-1298-104-A A BOARD, COMPLETE**

4-382-854-01 SCREW (M3X8), P, SW (+)

CAPACITOR

REF.NO.	PART NO.	DESCRIPTION			REMARK
C001	1-136-169-00	FILM	0.22MF	5%	50V
C002	1-137-528-11	FILM	0.1MF	10%	250V
C003	1-137-528-11	FILM	0.1MF	10%	250V
C004	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C005	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C006	1-126-934-11	ELECT	220MF	20%	16V
C007	1-104-664-11	ELECT	47MF	20%	25V
C008	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C009	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C010	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C011	1-106-220-00	MYLAR	0.1MF	10%	100V
C012	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C013	1-126-934-11	ELECT	220MF	20%	16V
C014	1-107-932-11	ELECT	47MF	20%	100V
C015	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C016	1-126-933-11	ELECT	100MF	20%	16V
C017	1-126-933-11	ELECT	100MF	20%	16V
C018	1-107-746-11	ELECT	10MF	20%	200V
C019	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C020	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C021	1-164-232-11	CERAMIC CHIP	0.01MF	10%	50V
C022	1-164-346-11	CERAMIC CHIP	1MF		16V
C023	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C024	1-163-263-11	CERAMIC CHIP	330PF	5%	50V
C025	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C026	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C027	1-164-346-11	CERAMIC CHIP	1MF		16V
C028	1-107-888-11	ELECT	47MF	20%	25V
C029	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V
C030	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V
C031	1-162-318-11	CERAMIC	0.001MF	10%	500V
C035	1-115-349-51	CERAMIC	0.01MF		2KV
C036	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C037	1-126-933-11	ELECT	100MF	20%	16V
C040	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C041	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C055	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C088	1-126-934-11	ELECT	220MF	20%	16V
C092	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C100	1-104-664-11	ELECT	47MF	20%	25V
C101	1-126-960-11	ELECT	1MF	20%	50V
C103	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C104	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V
C105	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C106	1-137-528-11	FILM	0.1MF	10%	250V
C107	1-164-346-11	CERAMIC CHIP	1MF		16V
C108	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C109	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C110	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C201	1-126-960-11	ELECT	1MF	20%	50V
C202	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C203	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C204	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V
C205	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C206	1-137-528-11	FILM	0.1MF	10%	250V
C207	1-164-346-11	CERAMIC CHIP	1MF		16V
C209	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C301	1-126-960-11	ELECT	1MF	20%	50V
C302	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C303	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C304	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V
C305	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C306	1-137-528-11	FILM	0.1MF	10%	250V
C307	1-164-346-11	CERAMIC CHIP	1MF		16V
C309	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C330	1-107-905-11	ELECT	4.7MF	20%	50V
C334	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C351	1-137-528-11	FILM	0.1MF	10%	250V

A

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REF.NO.	PART NO.	DESCRIPTION	REMARK
		CONNECTOR	
CN301	1-506-108-41	PIN, CONNECTOR (TERMINAL PIN)	
CN302	1-695-915-11	TAB (CONTACT)	
CN303	1-695-915-11	TAB (CONTACT)	
CN305	1-564-513-11	PLUG, CONNECTOR 10P	
CN306 *	1-564-510-11	PLUG, CONNECTOR 7P	
CN307 *	1-564-512-11	PLUG, CONNECTOR 9P	
CN309	1-564-511-11	PLUG, CONNECTOR 8P	
CN310 *	1-564-507-11	PLUG, CONNECTOR 4P	
CN311 *	1-564-507-11	PLUG, CONNECTOR 4P	
CN399	1-695-915-11	TAB (CONTACT)	
		DIODE	
D002	8-719-911-19	DIODE 1SS119-25	
D014	8-719-911-19	DIODE 1SS119-25	
D016	8-719-109-89	DIODE RD5.6ESB2	
D017	8-719-109-89	DIODE RD5.6ESB2	
D101	8-719-911-19	DIODE 1SS119-25	
D102	8-719-911-19	DIODE 1SS119-25	
D104	8-719-970-83	DIODE HSS82	
D105	8-719-970-83	DIODE HSS82	
D106	8-719-970-83	DIODE HSS82	
D201	8-719-911-19	DIODE 1SS119-25	
D202	8-719-911-19	DIODE 1SS119-25	
D204	8-719-970-83	DIODE HSS82	
D205	8-719-970-83	DIODE HSS82	
D206	8-719-970-83	DIODE HSS82	
D301	8-719-911-19	DIODE 1SS119-25	
D302	8-719-911-19	DIODE 1SS119-25	
D304	8-719-970-83	DIODE HSS82	
D305	8-719-970-83	DIODE HSS82	
D306	8-719-970-83	DIODE HSS82	
D307	8-719-110-49	DIODE RD18ESB2	
		FERRITE BEAD	
FB001	1-412-911-11	FERRITE	
FB003	1-412-911-11	FERRITE	
FB004	1-412-911-11	FERRITE	
FB005	1-412-911-11	FERRITE	
FB006	1-412-911-11	FERRITE	
FB007	1-412-911-11	FERRITE	
FB008	1-412-911-11	FERRITE	
FB009	1-412-911-11	FERRITE	
FB010	1-412-911-11	FERRITE	
FB011	1-412-911-11	FERRITE	
FB012	1-412-911-11	FERRITE	
FB013	1-412-911-11	FERRITE	
FB101 ⚠	1-500-104-21	FERRITE	
FB102 ⚠	1-414-793-21	FERRITE	
FB103	1-500-104-21	FERRITE	
FB104	1-412-911-11	FERRITE	
FB110	1-412-911-11	FERRITE	
FB201 ⚠	1-500-104-21	FERRITE	
FB202 ⚠	1-414-793-21	FERRITE	
FB203	1-500-104-21	FERRITE	
FB210	1-412-911-11	FERRITE	
FB301 ⚠	1-500-104-21	FERRITE	
FB302 ⚠	1-414-793-21	FERRITE	
FB303	1-500-104-21	FERRITE	
FB310	1-412-911-11	FERRITE	
		IC	
IC001	8-759-474-78	IC MM1382	
IC002	8-759-435-33	IC LM2405T	
IC003	8-759-399-76	IC SNY425	
IC004	8-759-434-40	IC TDA6103Q/N3,112	
IC005	8-759-634-51	IC M5218AP	
		JACK	
J001	⚠1-251-598-11	SOCKET, CRT	
		COIL	
L001	1-412-537-31	INDUCTOR 100UH	
L101	1-407-500-00	INDUCTOR 4.7MMH	
L105	1-410-750-41	INDUCTOR 0.47UH	
L201	1-407-500-00	INDUCTOR 4.7MMH	
L205	1-410-750-41	INDUCTOR 0.47UH	
L301	1-407-500-00	INDUCTOR 4.7MMH	
L305	1-410-750-41	INDUCTOR 0.47UH	
		TRANSISTOR	
Q001	8-729-032-61	TRANSISTOR 2SC5022-02	
Q002	8-729-216-22	TRANSISTOR 2SA1162-G	
Q003	8-729-216-22	TRANSISTOR 2SA1162-G	
Q004	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q005	8-729-216-22	TRANSISTOR 2SA1162-G	
Q006	8-729-216-22	TRANSISTOR 2SA1162-G	
		RESISTOR	
R001	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R002	1-216-661-11	METAL CHIP 2.7K 0.50% 1/10W	
R003	1-216-101-00	RES,CHIP 150K 5% 1/10W	
R004	1-216-085-00	RES,CHIP 33K 5% 1/10W	
R005	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R006	1-216-025-91	RES,CHIP 100 5% 1/10W	
R007	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R008	1-216-025-91	RES,CHIP 100 5% 1/10W	

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R010	1-216-049-91	RES,CHIP	1K	5%	1/10W
R011	1-216-091-00	RES,CHIP	56K	5%	1/10W
R012	1-216-109-00	RES,CHIP	330K	5%	1/10W
R013	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R014	1-216-025-91	RES,CHIP	100	5%	1/10W
R015	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R016	1-216-073-00	RES,CHIP	10K	5%	1/10W
R017	1-216-025-91	RES,CHIP	100	5%	1/10W
R018	1-216-025-91	RES,CHIP	100	5%	1/10W
R019	1-216-025-91	RES,CHIP	100	5%	1/10W
R020	1-216-025-91	RES,CHIP	100	5%	1/10W
R021	1-216-025-91	RES,CHIP	100	5%	1/10W
R022	1-216-049-91	RES,CHIP	1K	5%	1/10W
R024	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R025	1-216-065-00	RES,CHIP	4.7K	5%	1/10W
R026	1-216-073-00	RES,CHIP	10K	5%	1/10W
R027	1-218-756-11	METAL CHIP	150K	0.50%	1/10W
R028	1-216-372-11	METAL OXIDE	1.8	5%	2W F
R029	1-216-101-00	RES,CHIP	150K	5%	1/10W
R030	1-216-097-91	RES,CHIP	100K	5%	1/10W
R031	1-216-049-91	RES,CHIP	1K	5%	1/10W
R032	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W
R033	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R035	1-216-017-91	RES,CHIP	47	5%	1/10W
R036	1-216-017-91	RES,CHIP	47	5%	1/10W
R039	1-218-764-11	METAL CHIP	330K	0.50%	1/10W
R040	1-216-121-91	RES,CHIP	1M	5%	1/10W
R045	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R048	1-211-885-21	METAL	2.2M	5%	1W
R049	1-218-760-11	METAL CHIP	220K	0.50%	1/10W
R053	1-219-621-91	METAL	22M	10%	1/4W
R057	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R058	1-216-041-00	RES,CHIP	470	5%	1/10W
R064	1-202-830-00	SOLID	10K	20%	1/2W
R077	1-216-047-91	RES,CHIP	820	5%	1/10W
R101	1-216-022-00	RES,CHIP	75	5%	1/10W
R102	1-216-017-91	RES,CHIP	47	5%	1/10W
R103	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R104	1-216-017-91	RES,CHIP	47	5%	1/10W
R105	1-216-037-00	RES,CHIP	330	5%	1/10W
R106	1-216-073-00	RES,CHIP	10K	5%	1/10W
R107	1-216-073-00	RES,CHIP	10K	5%	1/10W
R108	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R109	1-216-121-91	RES,CHIP	1M	5%	1/10W
R110	1-216-254-00	RES,CHIP	220K	5%	1/8W
R111	1-249-412-11	CARBON	390	5%	1/4W
R114	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R115	1-249-401-11	CARBON	47	5%	1/4W F
R151	1-202-549-00	SOLID	100	20%	1/2W

REF.NO.	PART NO.	DESCRIPTION			REMARK
R162	1-216-049-91	RES,CHIP	1K	5%	1/10W
R201	1-216-022-00	RES,CHIP	75	5%	1/10W
R202	1-216-017-91	RES,CHIP	47	5%	1/10W
R203	1-216-097-91	RES,CHIP	100K	5%	1/10W
R204	1-216-021-00	RES,CHIP	68	5%	1/10W
R205	1-216-037-00	RES,CHIP	330	5%	1/10W
R206	1-216-073-00	RES,CHIP	10K	5%	1/10W
R207	1-216-073-00	RES,CHIP	10K	5%	1/10W
R208	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R209	1-216-121-91	RES,CHIP	1M	5%	1/10W
R210	1-216-254-00	RES,CHIP	220K	5%	1/8W
R211	1-249-412-11	CARBON	390	5%	1/4W
R214	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R215	1-249-401-11	CARBON	47	5%	1/4W F
R251	1-202-549-00	SOLID	100	20%	1/2W
R262	1-216-049-91	RES,CHIP	1K	5%	1/10W
R301	1-216-022-00	RES,CHIP	75	5%	1/10W
R302	1-216-017-91	RES,CHIP	47	5%	1/10W
R303	1-216-097-91	RES,CHIP	100K	5%	1/10W
R304	1-216-013-00	RES,CHIP	33	5%	1/10W
R305	1-216-037-00	RES,CHIP	330	5%	1/10W
R306	1-216-073-00	RES,CHIP	10K	5%	1/10W
R307	1-216-073-00	RES,CHIP	10K	5%	1/10W
R308	1-216-069-00	RES,CHIP	6.8K	5%	1/10W
R309	1-216-121-91	RES,CHIP	1M	5%	1/10W
R310	1-216-254-00	RES,CHIP	220K	5%	1/8W
R311	1-249-412-11	CARBON	390	5%	1/4W
R314	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R315	1-249-401-11	CARBON	47	5%	1/4W F
R351	1-202-549-00	SOLID	100	20%	1/2W
R362	1-216-049-91	RES,CHIP	1K	5%	1/10W

SPARK GAP

SG001	⚠	1-519-422-11	GAP, SPARK
SG003	⚠	1-517-499-21	GAP, SPARK
SG101	⚠	1-517-499-21	GAP, SPARK
SG201	⚠	1-517-499-21	GAP, SPARK
SG301	⚠	1-517-499-21	GAP, SPARK

CRYSTAL

X1	1-567-890-11	VIBRATOR, CRYSTAL

D

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D

*** A-1346-612-A D BOARD, COMPLETE**

1-533-223-11 HOLDER, FUSE
* 1-900-801-67 CONNECTOR ASSY

4-045-132-01 HOLDER (A), LED
4-382-854-11 SCREW (M3X10), P, SW (+)
4-389-025-01 SCREW (M4) (EXT TOOTH WASHER)
7-685-647-79 SCREW +BVTP 3X10 TYPE2

CAPACITOR

REF.NO.	PART NO.	DESCRIPTION			
C401	1-128-528-11	ELECT	470MF	20%	25V
C402	1-106-228-00	MYLAR	0.22MF	10%	100V
C403	1-137-399-11	FILM	0.1MF	5%	50V
C404	1-107-894-11	ELECT	220MF	20%	35V
C405	1-101-006-00	CERAMIC	0.047MF		50V
C406	1-137-375-11	FILM	0.068MF	5%	50V
C409	1-126-960-11	ELECT	1MF	20%	50V
C410	1-107-914-11	ELECT	1000MF	20%	25V
C420	1-137-368-11	FILM	0.0047MF	5%	50V
C500	1-136-169-00	FILM	0.22MF	5%	50V
C502	1-137-370-11	FILM	0.01MF	5%	50V
C503	1-107-667-11	ELECT	2.2MF	20%	160V
C505	1-126-964-11	ELECT	10MF	20%	50V
C506	1-137-370-11	FILM	0.01MF	5%	50V
C507	1-162-318-11	CERAMIC	0.001MF	10%	500V
C508	1-109-843-11	CERAMIC	33PF	5%	2KV
C509	1-137-374-11	FILM	0.047MF	5%	50V
C512	1-137-399-11	FILM	0.1MF	5%	50V
C513	1-106-383-00	MYLAR	0.047MF	10%	200V
C514	1-126-941-11	ELECT	470MF	20%	25V
C515	1-136-203-11	FILM	10000PF	5%	630V
C516	1-126-960-11	ELECT	1MF	20%	50V
C517	1-137-370-11	FILM	0.01MF	5%	50V
C518	1-165-136-11	CERAMIC	3300PF	10%	500V
C519	1-126-961-11	ELECT	2.2MF	20%	50V
C520	1-107-955-11	ELECT	100MF	20%	200V
C521	1-126-960-11	ELECT	1MF	20%	50V
C523	1-106-375-12	MYLAR	0.022MF	10%	100V
C527	1-162-117-00	CERAMIC	100PF	10%	500V
C528	1-117-378-11	FILM	1MF	5%	50V
C529	1-107-846-11	FILM	0.1MF	5%	400V
C531	1-137-399-11	FILM	0.1MF	5%	50V
C532	1-107-364-11	MYLAR	0.01MF	10%	200V
C533	1-164-735-11	CERAMIC	0.0015MF	10%	500V
C534	1-115-349-51	CERAMIC	0.01MF		2KV
C536	1-106-375-12	MYLAR	0.022MF	10%	100V

REF.NO.	PART NO.	DESCRIPTION			
C540 ⚠	1-136-064-00	FILM	2200PF	3%	2KV
C541 ⚠	1-109-997-11	FILM	0.0043MF	3%	2.5KV
C542	1-137-370-11	FILM	0.01MF	5%	50V
C547	1-126-941-11	ELECT	470MF	20%	25V
C548	1-137-425-11	FILM	0.33MF	10%	100V
C549	1-137-399-11	FILM	0.1MF	5%	50V
C550	1-117-206-21	FILM	0.36MF	5%	250V
C562	1-107-846-11	FILM	0.1MF	5%	250V
C565	1-136-169-00	FILM	0.22MF	5%	50V
C566	1-137-370-11	FILM	0.01MF	5%	50V
C567	1-137-370-11	FILM	0.01MF	5%	50V
C568	1-137-370-11	FILM	0.01MF	5%	50V
C569	1-137-370-11	FILM	0.01MF	5%	50V
C570	1-115-519-11	FILM	0.56MF	5%	250V
C576	1-115-514-11	FILM	0.22MF	5%	250V
C582	1-161-754-00	CERAMIC	0.001MF	10%	2KV
C583	1-106-375-12	MYLAR	0.022MF	10%	100V
C593	1-117-662-71	FILM	0.18MF	5%	250V
C598	1-137-399-11	FILM	0.1MF	5%	50V
C599	1-128-582-11	ELECT	10MF	20%	100V
C602 ⚠	1-107-533-11	FILM	1MF	20%	250V
C603 ⚠	1-113-912-11	CERAMIC	0.0047MF	20%	250V
C604 ⚠	1-113-912-11	CERAMIC	0.0047MF	20%	250V
C605 ⚠	1-113-896-11	CERAMIC	220PF	10%	250V
C606 ⚠	1-113-896-11	CERAMIC	220PF	10%	250V
C607	1-137-368-11	FILM	0.0047MF	5%	50V
C608	1-107-894-11	ELECT	220MF	20%	35V
C609	1-137-399-11	FILM	0.1MF	5%	50V
C610	1-102-115-00	CERAMIC	560PF	10%	50V
C611	1-136-177-00	FILM	1MF	5%	50V
C612	1-137-370-11	FILM	0.01MF	5%	50V
C614	1-102-973-00	CERAMIC	100PF	5%	50V
C615	1-137-364-11	FILM	0.001MF	5%	50V
C616	1-113-912-11	CERAMIC	0.0047MF	20%	250V
C617	1-106-343-00	MYLAR	0.001MF	10%	100V
C618	1-107-884-11	ELECT	1000MF	20%	16V
C619	1-137-366-11	FILM	0.0022MF	5%	50V
C620 ⚠	1-109-984-11	ELECT(BLOCK)	390MF	20%	400V
C621	1-136-203-11	FILM	10000PF	5%	630V
C622 ⚠	1-113-912-11	CERAMIC	0.0047MF	20%	250V
C628	1-137-399-11	FILM	0.1MF	5%	50V
C634	1-126-941-11	ELECT	470MF	20%	25V
C635	1-126-935-11	ELECT	470MF	20%	16V
C650	1-125-700-11	ELECT(BLOCK)	220MF	20%	200V
C651	1-107-933-11	ELECT	100MF	20%	100V
C652	1-107-914-11	ELECT	1000MF	20%	25V
C653	1-126-941-11	ELECT	470MF	20%	25V
C662	1-126-941-11	ELECT	470MF	20%	25V
C675	1-137-364-11	FILM	0.001MF	5%	50V

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REF.NO.	PART NO.	DESCRIPTION			REMARK
C678	1-162-115-00	CERAMIC	330PF	10%	2KV
C802	1-102-074-00	CERAMIC	0.001MF	10%	50V
C803	1-102-106-00	CERAMIC	100PF	10%	50V
C804	1-137-364-11	FILM	0.001MF	5%	50V
C805	1-126-965-11	ELECT	22MF	20%	50V
C806	1-126-767-11	ELECT	1000MF	20%	16V
C807	1-137-399-11	FILM	0.1MF	5%	50V
C808	1-137-365-11	FILM	0.0015MF	5%	50V
C810	1-124-768-11	ELECT	4.7MF	20%	35V
C811	1-137-399-11	FILM	0.1MF	5%	50V
C812	1-137-365-11	FILM	0.0015MF	5%	50V
C813	1-137-370-11	FILM	0.01MF	5%	50V
C814	1-136-169-00	FILM	0.22MF	5%	50V
C815	1-137-366-11	FILM	0.0022MF	5%	50V
C817	1-126-933-11	ELECT	100MF	20%	16V
C818	1-137-399-11	FILM	0.1MF	5%	50V
C819	1-136-173-00	FILM	0.47MF	5%	50V
C820	1-137-366-11	FILM	0.0022MF	5%	50V
C821	1-102-112-00	CERAMIC	330PF	10%	50V
C822	1-137-368-11	FILM	0.0047MF	5%	50V
C901	1-137-399-11	FILM	0.1MF	5%	50V
C902	1-137-368-11	FILM	0.0047MF	5%	50V
C903	1-102-951-00	CERAMIC	15PF	5%	50V
C904	1-137-399-11	FILM	0.1MF	5%	50V
C905	1-137-399-11	FILM	0.1MF	5%	50V
C906	1-136-173-00	FILM	0.47MF	5%	50V
C907	1-126-963-11	ELECT	4.7MF	20%	50V
C908	1-102-951-00	CERAMIC	15PF	5%	50V
C909	1-137-370-11	FILM	0.01MF	5%	50V
C910	1-104-664-11	ELECT	47MF	20%	25V
C911	1-126-768-11	ELECT	2200MF	20%	16V
C912	1-126-961-11	ELECT	2.2MF	20%	50V
C913	1-126-961-11	ELECT	2.2MF	20%	50V
C914	1-126-961-11	ELECT	2.2MF	20%	50V
C915	1-124-768-11	ELECT	4.7MF	20%	35V
C916	1-126-961-11	ELECT	2.2MF	20%	50V
C917	1-126-961-11	ELECT	2.2MF	20%	50V
C918	1-126-961-11	ELECT	2.2MF	20%	50V
C919	1-126-961-11	ELECT	2.2MF	20%	50V
C920	1-126-961-11	ELECT	2.2MF	20%	50V
C921	1-126-961-11	ELECT	2.2MF	20%	50V
C923	1-137-370-11	FILM	0.01MF	5%	50V
C924	1-137-399-11	FILM	0.1MF	5%	50V
C925	1-126-934-11	ELECT	220MF	20%	16V
C926	1-137-364-11	FILM	0.001MF	5%	50V
C927	1-104-664-11	ELECT	47MF	20%	25V
C928	1-137-370-11	FILM	0.01MF	5%	50V
C929	1-137-399-11	FILM	0.1MF	5%	50V
C930	1-126-965-11	ELECT	22MF	20%	50V
C931	1-136-169-00	FILM	0.22MF	5%	50V
C932	1-137-399-11	FILM	0.1MF	5%	50V
C933	1-126-934-11	ELECT	220MF	20%	16V
C934	1-126-961-11	ELECT	2.2MF	20%	50V
C935	1-136-169-00	FILM	0.22MF	5%	50V
C937	1-126-935-11	ELECT	470MF	20%	16V
C939	1-137-374-11	FILM	0.047MF	5%	50V
C940	1-137-374-11	FILM	0.047MF	5%	50V
C941	1-136-169-00	FILM	0.22MF	5%	50V
C942	1-126-926-11	ELECT	1000MF	20%	10V
C943	1-137-372-11	FILM	0.022MF	5%	50V
C944	1-137-366-11	FILM	0.0022MF	5%	50V
C945	1-137-372-11	FILM	0.022MF	5%	50V
C946	1-102-106-00	CERAMIC	100PF	10%	50V
C948	1-137-399-11	FILM	0.1MF	5%	50V
C950	1-117-378-11	FILM	1MF	5%	50V
C955	1-102-106-00	CERAMIC	100PF	10%	50V
C960	1-136-177-00	FILM	1MF	5%	50V
C961	1-137-399-11	FILM	0.1MF	5%	50V
C962	1-137-399-11	FILM	0.1MF	5%	50V
C963	1-137-399-11	FILM	0.1MF	5%	50V
C967	1-102-106-00	CERAMIC	100PF	10%	50V
C968	1-126-960-11	ELECT	1MF	20%	50V
C969	1-137-364-11	FILM	0.001MF	5%	50V
C970	1-102-106-00	CERAMIC	100PF	10%	50V
C1801	1-102-112-00	CERAMIC	330PF	10%	50V
C1802	1-102-112-00	CERAMIC	330PF	10%	50V
C1803	1-136-169-00	FILM	0.22MF	5%	50V

CONNECTOR

CN501 *	1-580-798-11	CONNECTOR PIN (DY)	6P
CN503 *	1-900-801-16	CONNECTOR ASSY,	2P
CN504	1-695-915-11	TAB (CONTACT)	
CN505	1-564-513-11	PLUG, CONNECTOR	10P
CN508 *	1-564-514-11	PLUG, CONNECTOR	11P
CN509 *	1-508-879-11	BASE POST	
CN511	1-564-511-11	PLUG, CONNECTOR	8P
CN512	1-695-915-11	TAB (CONTACT)	
CN600 ⚠	1-251-227-11	INLET, AC	
CN601	1-691-960-11	PIN, CONNECTOR (PC BOARD)	3P
CN605 *	1-506-371-00	PIN, CONNECTOR	2P

DIODE

D401	8-719-010-34	DIODE UZ-4.7BSC
D402	8-719-979-58	DIODE EGP10D
D403	8-719-908-03	DIODE GP08D
D501	8-719-061-21	DIODE FMQ-G5FMS
D502	8-719-110-49	DIODE RD18ESB2
D503	8-719-911-19	DIODE 1SS119-25

D

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REF.NO.	PART NO.	DESCRIPTION	REMARK
D504	8-719-051-97	DIODE 3DL41A(LC6-15)	
D505	8-719-110-17	DIODE RD10ESB2	
D506	8-719-110-67	DIODE RD27ESB2	
D508	8-719-975-77	DIODE SB340	
D509	8-719-979-58	DIODE EGP10D	
D510	8-719-979-58	DIODE EGP10D	
D511 ⚠	8-719-110-67	DIODE RD27ESB2	
D515	8-719-979-58	DIODE EGP10D	
D522	8-719-911-19	DIODE 1SS119-25	
D526	8-719-018-82	DIODE RGP02-20EL-6394	
D595	8-719-911-19	DIODE 1SS119-25	
D596	8-719-911-19	DIODE 1SS119-25	
D598	8-719-110-49	DIODE RD18ESB2	
D601 ⚠	8-719-025-88	DIODE GBU4JL-6088	
D602	8-719-970-83	DIODE HSS82	
D603	8-719-110-49	DIODE RD18ESB2	
D604	8-719-053-19	DIODE UF4007G23	
D605	8-719-970-83	DIODE HSS82	
D607	8-719-979-58	DIODE EGP10D	
D608	8-719-986-73	DIODE RB441Q	
D614	8-719-110-08	DIODE RD8.2ESB2	
D651	8-719-979-58	DIODE EGP10D	
D652	8-719-979-50	DIODE EGP30D	
D653	8-719-979-84	DIODE EGP20DPKG23	
D654	8-719-051-97	DIODE 3DL41A(LC6-15)	
D670	8-719-911-19	DIODE 1SS119-25	
D671	8-719-067-68	DIODE FMC-26UA	
D801	8-719-911-19	DIODE 1SS119-25	
D803	8-719-911-19	DIODE 1SS119-25	
D804	8-719-911-19	DIODE 1SS119-25	
D903	8-719-970-83	DIODE HSS82	
D906	8-719-109-89	DIODE RD5.6ESB2	
D907	8-719-109-89	DIODE RD5.6ESB2	
D908	8-719-911-19	DIODE 1SS119-25	
D909	8-719-109-89	DIODE RD5.6ESB2	
D910	8-719-911-19	DIODE 1SS119-25	
D913	8-719-311-90	DIODE SEL1922D-C	
D914	8-719-311-15	DIODE SEL1422G-C,D	
D915	8-719-911-19	DIODE 1SS119-25	
D916	8-719-911-19	DIODE 1SS119-25	
D917	8-719-911-19	DIODE 1SS119-25	
D918	8-719-911-19	DIODE 1SS119-25	
D920	8-719-109-81	DIODE RD4.7ESB2	
D921	8-719-911-19	DIODE 1SS119-25	
D922	8-719-911-19	DIODE 1SS119-25	
D923	8-719-911-19	DIODE 1SS119-25	
D924	8-719-911-19	DIODE 1SS119-25	
D944	8-719-911-19	DIODE 1SS119-25	
D945	8-719-911-19	DIODE 1SS119-25	
D946	8-719-911-19	DIODE 1SS119-25	

FUSE

F601 ⚠	1-576-231-11	FUSE (H.B.C.) 4A/250V	

FERRITE BEAD

FB501	1-410-396-41	FERRITE	0.45UH
FB502	1-412-911-11	FERRITE	
FB503	1-412-911-11	FERRITE	
FB524	1-412-911-11	FERRITE	
FB525	1-412-911-11	FERRITE	
FB601	1-412-911-11	FERRITE	
FB602	1-412-911-11	FERRITE	
FB603	1-412-911-11	FERRITE	
FB604	1-412-911-11	FERRITE	
FB605	1-412-911-11	FERRITE	
FB606	1-412-911-11	FERRITE	
FB607	1-412-911-11	FERRITE	
FB608 ⚠	1-412-911-11	FERRITE	
FB609 ⚠	1-412-911-11	FERRITE	
FB610 ⚠	1-412-911-11	FERRITE	
FB611 ⚠	1-412-911-11	FERRITE	
FB612 ⚠	1-412-911-11	FERRITE	
FB613 ⚠	1-412-911-11	FERRITE	
FB614 ⚠	1-412-911-11	FERRITE	
FB615 ⚠	1-412-911-11	FERRITE	
FB901	1-412-911-11	FERRITE	
FB902	1-412-911-11	FERRITE	
FB903	1-412-911-11	FERRITE	
FB904	1-412-911-11	FERRITE	
FB905	1-412-911-11	FERRITE	

TERMINAL

GT001 *	1-537-738-21	TERMINAL, EARTH	
GT002 *	1-537-738-21	TERMINAL, EARTH	

IC

IC400	8-759-803-42	IC LA6500-FA	
IC401	8-759-980-58	IC TDA8172	
IC601 ⚠	8-759-399-81	IC MC44603P	
IC603 ⚠	8-749-014-41	IC MOC8105TVZ	
IC604 ⚠	8-759-072-98	IC TDA8138A	
IC652 ⚠	8-759-466-13	IC TL431ACLPRP	
IC801 ⚠	8-759-466-15	IC UPC6753	
IC901	8-759-467-75	IC ST7272N5B1/CPS	
IC902 ⚠	8-759-269-04	IC SN74HCT02AN	

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REF.NO.	PART NO.	DESCRIPTION	REMARK
IC903	8-759-165-81	IC PST600D-T	
IC904 ⚠	8-759-399-77	IC TDA9105	
		COIL	
L501	1-412-550-11	INDUCTOR 1.2MMH	
L504	1-459-104-00	COIL, WITH CORE	
L505	1-412-531-31	INDUCTOR 33UH	
L506	1-459-104-00	COIL, WITH CORE	
L507	1-412-531-31	INDUCTOR 33UH	
L513	1-409-896-11	COIL, HORIZONTAL LINEARITY	
L650	1-412-537-31	INDUCTOR 100UH	
L651	1-412-537-31	INDUCTOR 100UH	
L652	1-406-665-11	INDUCTOR	
L653	1-412-537-31	INDUCTOR 100UH	
L801	1-410-645-31	INDUCTOR 100UH	
L900	1-410-645-31	INDUCTOR 100UH	
		FILTER	
LF601 ⚠	1-429-180-21	TRANSFORMER, LINE FILTER	
		TRANSISTOR	
Q500	8-729-031-89	TRANSISTOR 2SC3941A-Q(TA)	
Q501	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q502 ⚠	8-729-043-37	TRANSISTOR IRFU214	
Q503	8-729-027-97	TRANSISTOR IRFI9630G-LF	
Q504	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q505	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q507	8-729-030-67	TRANSISTOR 2SC5129(LBSONY1)	
Q508 ⚠	8-729-042-24	TRANSISTOR 2SB949-Q(LE)	
Q509 ⚠	8-729-042-33	TRANSISTOR 2SD1275Q-LE	
Q510	8-729-027-82	TRANSISTOR IRFPE40LF20	
	4-047-285-01	SHEET, INSULATING (for Q510)	
Q512	8-729-027-14	TRANSISTOR 2SK1904	
Q513	8-729-027-14	TRANSISTOR 2SK1904	
Q514	8-729-027-14	TRANSISTOR 2SK1904	
Q515	8-729-140-50	TRANSISTOR 2SC3209LK	
Q528	8-729-140-50	TRANSISTOR 2SC3209LK	
Q529	8-729-028-34	TRANSISTOR 2SD1640Q,R	
Q602 ⚠	8-729-926-79	TRANSISTOR IRFIBC40	
Q654	8-729-141-83	TRANSISTOR 2SB1094-LK	
Q655	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q656 ⚠	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q670	8-729-011-92	TRANSISTOR 2SC2001TP-K1K2	
Q901	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q902	8-729-029-86	TRANSISTOR DTC124ESA	
Q903	8-729-107-78	TRANSISTOR 2SC3623-K	
Q910	8-729-119-78	TRANSISTOR 2SC2785-HFE	

REF.NO.	PART NO.	DESCRIPTION				REMARK
		RESISTOR				
R401	1-249-425-11	CARBON	4.7K	5%	1/4W	
R407	1-215-447-00	METAL	12K	1%	1/4W	
R408	1-249-383-11	CARBON	1.5	5%	1/4W	F
R410	1-215-859-00	METAL OXIDE	22	5%	1W	F
R411	1-215-445-00	METAL	10K	1%	1/4W	
R412	1-215-421-00	METAL	1K	1%	1/4W	
R418	1-214-798-21	METAL	1.8	1%	1/2W	
R420	1-215-461-00	METAL	47K	1%	1/4W	
R421	1-214-798-21	METAL	1.8	1%	1/2W	
R422	1-215-866-11	METAL OXIDE	330	5%	1W	F
R423	1-215-439-00	METAL	5.6K	1%	1/4W	
R424	1-215-447-00	METAL	12K	1%	1/4W	
R425	1-215-441-00	METAL	6.8K	1%	1/4W	
R426	1-249-383-11	CARBON	1.5	5%	1/4W	F
R427	1-215-447-00	METAL	12K	1%	1/4W	
R500	1-249-405-11	CARBON	100	5%	1/4W	F
R501	1-247-863-91	CARBON	22K	5%	1/4W	
R503	1-249-437-11	CARBON	47K	5%	1/4W	
R504	1-215-888-00	METAL OXIDE	220	5%	2W	F
R505	1-247-863-91	CARBON	22K	5%	1/4W	
R506	1-216-391-11	METAL OXIDE	1.5	5%	3W	F
R507	1-249-437-11	CARBON	47K	5%	1/4W	
R508	1-216-391-11	METAL OXIDE	1.5	5%	3W	F
R509	1-249-389-11	CARBON	4.7	5%	1/4W	F
R510	1-249-389-11	CARBON	4.7	5%	1/4W	
R511	1-249-401-11	CARBON	47	5%	1/4W	
R512	1-247-881-00	CARBON	120K	5%	1/4W	
R513	1-249-429-11	CARBON	10K	5%	1/4W	
R514	1-249-429-11	CARBON	10K	5%	1/4W	
R515	1-215-481-00	METAL	330K	1%	1/4W	
R517	1-249-417-11	CARBON	1K	5%	1/4W	F
R518	1-249-417-11	CARBON	1K	5%	1/4W	F
R519	1-249-437-11	CARBON	47K	5%	1/4W	
R520	1-249-417-11	CARBON	1K	5%	1/4W	F
R521	1-249-389-11	CARBON	4.7	5%	1/4W	F
R522	1-249-417-11	CARBON	1K	5%	1/4W	F
R523	1-249-377-11	CARBON	0.47	5%	1/4W	F
R524	1-216-447-00	METAL OXIDE	27	5%	2W	F
R525	1-249-426-11	CARBON	5.6K	5%	1/4W	
R526	1-249-377-11	CARBON	0.47	5%	1/4W	F
R527	1-215-913-11	METAL OXIDE	220	5%	3W	F
R528	1-215-910-00	METAL OXIDE	68	5%	3W	F
R529	1-249-441-11	CARBON	100K	5%	1/4W	
R530	1-216-474-11	METAL OXIDE	82	5%	3W	F
R531	1-216-474-11	METAL OXIDE	82	5%	3W	F
R532	1-249-389-11	CARBON	4.7	5%	1/4W	F

D

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REF.NO.	PART NO.	DESCRIPTION				REMARK
R533 ⚠	1-215-488-00	METAL	620K	1%	1/4W	
R534 ⚠	1-215-468-00	METAL	91K	1%	1/4W	
R535 ⚠	1-215-473-00	METAL	150K	1%	1/4W	
R536	1-249-428-11	CARBON	8.2K	5%	1/4W	
R537	1-249-397-11	CARBON	22	5%	1/4W	F
R538	1-215-441-00	METAL	6.8K	1%	1/4W	
R539	1-215-476-00	METAL	200K	1%	1/4W	
R540	1-215-457-00	METAL	33K	1%	1/4W	
R541	1-215-443-00	METAL	8.2K	1%	1/4W	
R542 ⚠	1-215-429-00	METAL	2.2K	1%	1/4W	
R543 ⚠	1-215-429-00	METAL	2.2K	1%	1/4W	
R544 ⚠	1-215-463-00	METAL	56K	1%	1/4W	
R545 ⚠	1-215-461-00	METAL	47K	1%	1/4W	
R546	1-249-397-11	CARBON	22	5%	1/4W	F
R547	1-249-424-11	CARBON	3.9K	5%	1/4W	
R548	1-215-437-00	METAL	4.7K	1%	1/4W	
R549	1-215-880-00	METAL OXIDE	10	5%	2W	F
R550	1-249-429-11	CARBON	10K	5%	1/4W	
R551	1-215-423-00	METAL	1.2K	1%	1/4W	
R552	1-249-385-11	CARBON	2.2	5%	1/4W	F
R553	1-249-421-11	CARBON	2.2K	5%	1/4W	
R554	1-249-421-11	CARBON	2.2K	5%	1/4W	
R555	1-249-377-11	CARBON	0.47	5%	1/4W	F
R556	1-202-818-00	SOLID	1K	20%	1/2W	
R563	1-249-421-11	CARBON	2.2K	5%	1/4W	
R564	1-249-421-11	CARBON	2.2K	5%	1/4W	
R565	1-215-483-00	METAL	390K	1%	1/4W	
R567	1-215-880-00	METAL OXIDE	10	5%	2W	F
R598	1-215-453-00	METAL	22K	1%	1/4W	
R599	1-215-467-00	METAL	82K	1%	1/4W	
R601 ⚠	1-202-847-00	SOLID	560K	20%	1/2W	
R602 ⚠	1-205-998-11	CEMENTED	1	5%	10W	
R603 ⚠	1-202-933-61	FUSIBLE	0.1	10%	1/2W	F
R604	1-215-926-00	METAL OXIDE	33K	5%	3W	F
R605	1-249-437-11	CARBON	47K	5%	1/4W	
R606	1-249-417-11	CARBON	1K	5%	1/4W	
R607	1-247-791-91	CARBON	22	5%	1/4W	
R608	1-249-429-11	CARBON	10K	5%	1/4W	
R609	1-216-381-11	METAL OXIDE	0.22	5%	3W	F
R610	1-215-925-11	METAL OXIDE	22K	5%	3W	F
R611	1-247-885-00	CARBON	180K	5%	1/4W	
R612	1-249-431-11	CARBON	15K	5%	1/4W	
R613	1-249-411-11	CARBON	330	5%	1/4W	
R614	1-249-421-11	CARBON	2.2K	5%	1/4W	
R615	1-249-377-11	CARBON	0.47	5%	1/4W	F
R619	1-249-425-11	CARBON	4.7K	5%	1/4W	
R621	1-249-434-11	CARBON	27K	5%	1/4W	
R623	1-215-445-00	METAL	10K	1%	1/4W	

REF.NO.	PART NO.	DESCRIPTION				REMARK
R631	1-249-417-11	CARBON	1K	5%	1/4W	
R651	1-215-878-00	METAL OXIDE	33K	5%	1W	F
R652 ⚠	1-211-874-11	FUSIBLE	0.12	10%	1/2W	
R654 ⚠	1-219-154-11	FUSIBLE	0.12	10%	1/4W	
R655	1-249-417-11	CARBON	1K	5%	1/4W	
R656	1-249-417-11	CARBON	1K	5%	1/4W	
R657	1-249-429-11	CARBON	10K	5%	1/4W	
R658	1-249-417-11	CARBON	1K	5%	1/4W	
R659	1-215-483-00	METAL	390K	1%	1/4W	
R660	1-215-443-00	METAL	8.2K	1%	1/4W	
R661	1-247-895-91	CARBON	470K	5%	1/4W	
R662	1-215-457-00	METAL	33K	1%	1/4W	
R663	1-249-429-11	CARBON	10K	5%	1/4W	
R664	1-216-349-00	METAL OXIDE	1	5%	1W	F
R665	1-249-429-11	CARBON	10K	5%	1/4W	
R666	1-249-429-11	CARBON	10K	5%	1/4W	
R667 ⚠	1-211-881-11	FUSIBLE	0.47	10%	1/2W	
R670	1-249-417-11	CARBON	1K	5%	1/4W	
R671	1-249-417-11	CARBON	1K	5%	1/4W	
R672	1-249-403-11	CARBON	68	5%	1/4W	
R673	1-249-429-11	CARBON	10K	5%	1/4W	
R674	1-249-429-11	CARBON	10K	5%	1/4W	
R801	1-249-377-11	CARBON	0.47	5%	1/4W	F
R807	1-249-438-11	CARBON	56K	5%	1/4W	
R808	1-215-485-00	METAL	470K	1%	1/4W	
R809	1-215-483-00	METAL	390K	1%	1/4W	
R811	1-249-432-11	CARBON	18K	5%	1/4W	
R815	1-215-457-00	METAL	33K	1%	1/4W	
R817	1-215-461-00	METAL	47K	1%	1/4W	
R819	1-215-457-00	METAL	33K	1%	1/4W	
R820	1-215-455-00	METAL	27K	1%	1/4W	
R821	1-215-465-00	METAL	68K	1%	1/4W	
R822	1-215-471-00	METAL	120K	1%	1/4W	
R823	1-215-481-00	METAL	330K	1%	1/4W	
R824	1-249-429-11	CARBON	10K	5%	1/4W	
R825	1-259-878-11	CARBON	1.5M	5%	1/4W	
R830	1-215-461-00	METAL	47K	1%	1/4W	
R831	1-215-405-00	METAL	220	1%	1/4W	
R900	1-249-417-11	CARBON	1K	5%	1/4W	
R901	1-249-425-11	CARBON	4.7K	5%	1/4W	
R902	1-249-425-11	CARBON	4.7K	5%	1/4W	
R903	1-249-425-11	CARBON	4.7K	5%	1/4W	
R904	1-249-425-11	CARBON	4.7K	5%	1/4W	
R905	1-249-425-11	CARBON	4.7K	5%	1/4W	
R906	1-215-449-00	METAL	15K	1%	1/4W	
R907	1-249-417-11	CARBON	1K	5%	1/4W	
R908	1-249-425-11	CARBON	4.7K	5%	1/4W	
R909	1-249-437-11	CARBON	47K	5%	1/4W	

Note: The components Identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifies per un trame et une marque ⚠ sont critiques pout la securite. Ne les remplacer que par une piece portant le numero specifie.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R910	1-247-895-91	CARBON	470K	5%	1/4W	
R911	1-249-437-11	CARBON	47K	5%	1/4W	
R912	1-249-413-11	CARBON	470	5%	1/4W	
R914	1-249-421-11	CARBON	2.2K	5%	1/4W	
R915	1-249-417-11	CARBON	1K	5%	1/4W	
R916	1-249-417-11	CARBON	1K	5%	1/4W	
R917	1-249-417-11	CARBON	1K	5%	1/4W	
R918	1-249-435-11	CARBON	33K	5%	1/4W	
R919	1-249-425-11	CARBON	4.7K	5%	1/4W	
R920	1-249-417-11	CARBON	1K	5%	1/4W	
R921	1-247-863-91	CARBON	22K	5%	1/4W	
R922	1-249-421-11	CARBON	2.2K	5%	1/4W	
R923	1-249-437-11	CARBON	47K	5%	1/4W	
R924	1-249-434-11	CARBON	27K	5%	1/4W	
R925	1-249-432-11	CARBON	18K	5%	1/4W	
R926	1-249-434-11	CARBON	27K	5%	1/4W	
R927	1-249-434-11	CARBON	27K	5%	1/4W	
R928	1-249-434-11	CARBON	27K	5%	1/4W	
R929	1-249-436-11	CARBON	39K	5%	1/4W	
R930	1-249-434-11	CARBON	27K	5%	1/4W	
R931	1-249-428-11	CARBON	8.2K	5%	1/4W	
R932	1-249-428-11	CARBON	8.2K	5%	1/4W	
R933	1-249-437-11	CARBON	47K	5%	1/4W	
R934	1-249-429-11	CARBON	10K	5%	1/4W	
R935	1-249-428-11	CARBON	8.2K	5%	1/4W	
R936	1-249-425-11	CARBON	4.7K	5%	1/4W	
R937	1-249-428-11	CARBON	8.2K	5%	1/4W	
R938	1-249-428-11	CARBON	8.2K	5%	1/4W	
R939	1-249-417-11	CARBON	1K	5%	1/4W	
R940	1-249-434-11	CARBON	27K	5%	1/4W	
R941	1-249-428-11	CARBON	8.2K	5%	1/4W	
R942	1-249-434-11	CARBON	27K	5%	1/4W	
R943	1-249-428-11	CARBON	8.2K	5%	1/4W	
R944	1-249-424-11	CARBON	3.9K	5%	1/4W	
R945	1-249-424-11	CARBON	3.9K	5%	1/4W	
R946	1-247-903-00	CARBON	1M	5%	1/4W	
R947	1-247-883-00	CARBON	150K	5%	1/4W	
R948	1-247-883-00	CARBON	150K	5%	1/4W	
R949	1-247-883-00	CARBON	150K	5%	1/4W	
R950	1-247-883-00	CARBON	150K	5%	1/4W	
R951	1-247-883-00	CARBON	150K	5%	1/4W	
R952	1-247-883-00	CARBON	150K	5%	1/4W	
R954	1-249-425-11	CARBON	4.7K	5%	1/4W	
R955	1-215-478-00	METAL	240K	1%	1/4W	
R956	1-249-421-11	CARBON	2.2K	5%	1/4W	
R957	1-215-441-00	METAL	6.8K	1%	1/4W	
R958	1-249-420-11	CARBON	1.8K	5%	1/4W	
R959	1-249-428-11	CARBON	8.2K	5%	1/4W	
R960	1-249-425-11	CARBON	4.7K	5%	1/4W	
R962	1-249-429-11	CARBON	10K	5%	1/4W	
R963	1-249-429-11	CARBON	10K	5%	1/4W	
R964	1-247-883-00	CARBON	150K	5%	1/4W	
R965	1-249-415-11	CARBON	680	5%	1/4W	
R966	1-247-895-91	CARBON	470K	5%	1/4W	
R968	1-247-883-00	CARBON	150K	5%	1/4W	
R972	1-249-429-11	CARBON	10K	5%	1/4W	
R973	1-249-429-11	CARBON	10K	5%	1/4W	
R975	1-249-429-11	CARBON	10K	5%	1/4W	
R976	1-249-425-11	CARBON	4.7K	5%	1/4W	
R977	1-249-417-11	CARBON	1K	5%	1/4W	
R979	1-249-434-11	CARBON	27K	5%	1/4W	
R980	1-247-883-00	CARBON	150K	5%	1/4W	
R981	1-249-413-11	CARBON	470	5%	1/4W	
R982	1-249-428-11	CARBON	8.2K	5%	1/4W	
R983	1-215-467-00	METAL	82K	1%	1/4W	
R984	1-249-417-11	CARBON	1K	5%	1/4W	
R985	1-247-807-31	CARBON	100	5%	1/4W	
R986	1-215-445-00	METAL	10K	1%	1/4W	
R987	1-249-425-11	CARBON	4.7K	5%	1/4W	
R989	1-249-429-11	CARBON	10K	5%	1/4W	
R990	1-247-807-31	CARBON	100	5%	1/4W	
R991	1-247-807-31	CARBON	100	5%	1/4W	
R992	1-249-417-11	CARBON	1K	5%	1/4W	
R993	1-249-429-11	CARBON	10K	5%	1/4W	
R994	1-249-417-11	CARBON	1K	5%	1/4W	
R995	1-249-413-11	CARBON	470	5%	1/4W	
R996	1-249-429-11	CARBON	10K	5%	1/4W	
R997	1-249-417-11	CARBON	1K	5%	1/4W	
R998	1-249-429-11	CARBON	10K	5%	1/4W	
R999	1-249-413-11	CARBON	470	5%	1/4W	
R1801	1-215-433-00	METAL	3.3K	1%	1/4W	
R1806	1-215-421-00	METAL	1K	1%	1/4W	
R1810	1-215-413-00	METAL	470	1%	1/4W	
R1811	1-215-409-00	METAL	330	1%	1/4W	
R1812	1-215-413-00	METAL	470	1%	1/4W	
R1813	1-215-413-00	METAL	470	1%	1/4W	
R1814	1-215-417-00	METAL	680	1%	1/4W	
R1815	1-215-469-00	METAL	100K	1%	1/4W	
R1818	1-215-425-00	METAL	1.5K	1%	1/4W	
R1819	1-215-425-00	METAL	1.5K	1%	1/4W	
R1820	1-215-433-00	METAL	3.3K	1%	1/4W	
R1822	1-215-433-00	METAL	3.3K	1%	1/4W	
R1823	1-215-413-00	METAL	470	1%	1/4W	
R1824	1-215-409-00	METAL	330	1%	1/4W	
R1825	1-215-413-00	METAL	470	1%	1/4W	
R1826	1-215-413-00	METAL	470	1%	1/4W	

D

Note: **The components Identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.**

Note: The components identified by ⋈ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

REF.NO.	PART NO.	DESCRIPTION				REMARK
R1827	1-215-417-00	METAL	680	1%	1/4W	
R1828	1-215-421-00	METAL	1K	1%	1/4W	
R1829	1-215-425-00	METAL	1.5K	1%	1/4W	
R1830	1-215-425-00	METAL	1.5K	1%	1/4W	
R1831	1-215-469-00	METAL	100K	1%	1/4W	
R1832	1-215-469-00	METAL	100K	1%	1/4W	

VARIABLE RESISTOR

⋈ RV501	⚠	1-241-767-21	RES, ADJ, CERMET 100K	
		3-710-578-01	COVER, VOLUME, 6 MOLD (for RV501)	

RELAY

RY601	⚠	1-755-031-11	RELAY	

SWITCH

S1803		1-762-816-11	SWITCH, TACTILE	
S1804		1-762-816-11	SWITCH, TACTILE	
S1805		1-762-816-11	SWITCH, TACTILE	
S1806		1-762-816-11	SWITCH, TACTILE	
S1807		1-762-816-11	SWITCH, TACTILE	
S1808		1-762-816-11	SWITCH, TACTILE	
S1809		1-762-816-11	SWITCH, TACTILE	
S1810		1-762-816-11	SWITCH, TACTILE	
S1819		1-692-431-21	SWITCH, TACTILE	
S1821		1-692-431-21	SWITCH, TACTILE	

SPARK GAP

SG501	⚠	1-519-422-11	GAP, SPARK	

TRANSFORMER

T501	⚠	X-4034-572-1	TRANSFORMER ASSY, FLYBACK (NX-4103//J1E4)	
T503		1-429-109-11	TRANSFORMER, FERRITE (DFT)	
T504	⚠	1-426-971-21	TRANSFORMER, FERRITE (HDT)	
T505		1-426-998-11	TRANSFORMER, FERRITE (HST)	
T601	⚠	1-431-247-11	TRANSFORMER, CONVERTER (SRT)	

THERMISTOR

TH501		1-807-796-11	THERMISTOR	
TH601	⚠	1-809-260-11	THERMISTOR, POWER	
TH602	⚠	1-809-827-11	THERMISTOR, POSITIVE	

REF.NO.	PART NO.	DESCRIPTION	REMARK

VARISTOR

VA601	⚠	1-810-622-11	VARISTOR	

CRYSTAL

X900		1-567-890-11	VIBRATOR, CRYSTAL	

MISCELLANEOUS

	⚠	1-416-282-21	COIL, DEMAGNETIZATION	
	⚠	1-452-923-21	NECK ASSY (NA-2914)	
	⚠	8-451-487-11	DY Y17FRG-M	
		1-543-653-11	CORE ASSY, BEAD (DIVISION TYPE)	
		3-704-372-31	HOLDER, HV CABLE	
		3-861-115-11	MANUAL, INSTRUCTION	
	⚠	1-776-027-41	CORD SET, POWER	
	⚠	8-738-725-05	CRT 17FRFM (M41LKN15X)	
	⚠	8-738-723-80	ITC ASSY (17FRF-R1)	
	⚠	X-4034-572-1	TRANSFORMER ASSY, FLYBACK (NX-4103//J1E4)	

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